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The Royal Mint Refinery, a Business Adapting to Change, 1919-1968

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**THE ROYAL MINT REFINERY,
A BUSINESS ADAPTING TO CHANGE,
1919-1968**

**Michele Blagg
King's College London
PhD**

Abstract

The thesis charts the business history of the Royal Mint Refinery (RMR), a bullion refinery operated by the London merchant bank, N M Rothschild & Sons, between 1852 and 1968. Through analysis of business records key events that changed the trading direction of the operation are identified: increased international competition, innovations and technological breakthroughs, diversification and expansion into light engineering, evolving administrative systems and management styles, changes in employer and worker relations, and the sale of the enterprise- set against a backdrop of international financial crises, two world wars, decolonisation and Britain's changed relationship to Empire gold.

Gold is a commodity like no other; in the twentieth century gold held a unique position at the heart of international relations and financial flows in monetary systems around the world. Rothschild assumed an administrative monopoly of the London gold market; as agents to the Bank of England, Chair of the London Gold Fixing and the Bank's varied business portfolio, which included a myriad of international investments. Ownership of RMR complemented and reinforced this position. Rothschild, through its connection to the refinery, gained access to and control over Empire gold, which in 1914 accounted for 70 per cent. of world output; the majority of which was shipped to London and treated at the Rothschild refinery. The 'RMR' brand was internationally recognised and accepted by Central Banks and private investors as good delivery. The profitability of the operation reflected the strong global demand for gold by jewellers, industrial sectors and investors; gold was considered a safe haven especially in times of economic crises or war. Post-1945 London's decline as a financial centre affected the future of RMR and the operation diverted into light engineering. The thesis links past with present; it charts the rise and fall of the operation and Rothschild's pursuit of profitability.

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List of Abbreviations

AIC	Associated Industrial Consultants Limited
AEU	Amalgamated Engineering Union
BEA	Bank of England
BIF	British Industries Fair
CAB	Cabinet Office files
HC Deb	House of Commons Parliamentary Debates
IMF	International Monetary Fund
JM	Johnson Matthey
JPC	Joint Production Committee
LSE	London School of Economics
MAP	Ministry of Aircraft Production
NMR	N M Rothschild & Sons
RMR	Royal Mint Refinery
TNA	The National Archives

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Chapter 1.

Introduction

This thesis charts the business history of the Royal Mint Refinery (RMR), a bullion refinery operated by the London merchant bank, N M Rothschild & Sons, between 1852 and 1968. For centuries both the refining of gold and the minting of coins in England had been the responsibility of the Master of the Royal Mint, an office created in the sixteenth century. The Royal Mint itself had been located in the Tower of London from the late thirteenth to the early nineteenth century, until the demands of new steam press machinery necessitated a move into new premises at Tower Hill. Concerns and criticisms were frequently raised over the expense and the lack of accountability of the old contract style system of operation. These objections led to the establishment of a Royal Commission in 1848. Of the many recommendations made by the Commissioners, it is that relating to the treatment of unrefined gold entering the country which interests us here. The Commissioners proposed that this business should be put out to tender.

The prospect of taking on the refining business appealed to the Rothschild family in London. The responsibility for the negotiations fell to Anthony de Rothschild (1810-1876), one of the sons and business heirs of N M Rothschild who secured the lease from the Government in January 1852. The firm took full advantage of the gold rushes of California, from 1848, Australia, from 1851, and South Africa, from 1884. Gold refining facilities were improved and expanded in response to the arrival of African gold, and the silver refinery received constant supplies of demonetised coin from across Europe.

Gold is a commodity like no other; in the twentieth century it held a unique position at the heart of international relations and financial flows in monetary systems around the world. It was the favoured commodity of the merchant bank N M Rothschild & Sons and complemented its business activities. Niall Ferguson, in *The House of Rothschild*, suggested that Rothschild was never ‘jacks-of-all-trades’.¹ He described the preference of Rothschild as specialist in a number of select markets, the aim being to establish a ‘dominant role’ in each.² Gold was one of Rothschild target areas. Over the course of two centuries Rothschild, once it established itself as agents to the Bank of England, assumed an administrative monopoly over the London gold market; it chaired the London Gold Fixing between 1919 and 2004. This was in addition to the varied business portfolio it built, which enhanced its myriad of global investments. Rothschild benefited from its connection to the Royal Mint Refinery as it provided the merchant bank access to and control over much of the gold production within the British Empire, which in 1914 amounted to a massive 70 per cent of the total world gold production.³ The ‘RMR’ brand was internationally recognised and accepted by central banks and private investors as ‘good delivery’. The profitability of the operation reflected the strong global demand for gold by jewellers, industrial sectors and investors; in times of economic crises or war gold was considered a safe haven. Silver business at the Refinery was sporadic, and the high point came in 1934. Prior to the First World War gold was part of the everyday economy. However, by 1919 most gold had been taken out of daily circulation.

¹Niall Ferguson, *The House of Rothschild, Money's Prophets, 1797-1848, Vol. 1* (New York: Penguin Group, 1998), p. 276

² Ibid.

³ C. R. Whittlesey, ‘The Gold Dilemma’ *Quarterly Journal of Economics*, 51 (1937), 581-603 (p. 598).

In the uncertain environment between the wars the London refining industry faced considerable problems including continued disruptions in the supply of metals. The greatest threat came after the establishment of the Rand Refinery in South Africa in 1922, the gold producers refined their own gold and business in London almost disappeared. Following the international financial crises from 1929, and the 1931 abandonment by many countries of the gold standard, gold returned to London attracted by the safe haven it provided. The London refining industry profited from the so-called 'gold rush' of 1932, when the price of gold was allowed to find its own level, which encouraged the sale and purchase of pre-treated gold, jewellery and coin. The scrap metal was treated by the London refiners and returned to bullion bars to be sold in the market.

At the outbreak of the Second World War the bullion trade was severely limited by the Bank of England's supervision. Although jewellery sales were almost forbidden but industrial demand was strong for gold and silver based products. The primary function of the Royal Mint Refinery was to refine the precious metals silver and gold and to process these and also certain base metals into the materials needed in commerce and industry. War was the catalyst for change; the plant was turned over to the manufacture of munitions and with financial assistance from the Ministry of Aircraft Production a 'shadow' factory was established at Tring. Additionally, the scope of activities grew. Many significant improvements in equipment and in technique were introduced. Both operations produced many and varied products. One of the company's major production resources was its modern equipment for the rolling of sheet and strip and coated wire drawing. From the refining of the pure metal to its casting, rolling, annealing, final inspection the strictest care was taken to

ensure perfection. Much of the quality and reliability of the finished products stems from the degree of skill and experience put into the primary stages of work: smelting, refining and the earlier mechanical processes of casting and extrusion, rolling and drawing. Most of these processes were carried out on traditional principles, but many of the precious metals and the less common metals required treatment by individual methods.

With the end of war came a period of alignment for the firm and reorganisation. Management consultants were engaged and the firm set a course for recovery. The Tring operation continued and found a niche for the production of lipstick cases and ticket machines. The Royal Mint Refinery struggled to return to its pre-war primary operation, hindered by continued government restrictions that applied to gold and the continued closure of the London gold market. In 1954 as the gold market re-opened work returned to the Refinery. However, a new threat emerged and easy access to gold ore slowly disappeared. Hit by the decolonisation of countries across Africa the outlook for the future of the Royal Mint Refinery was bleak as new overseas native refineries were established.

In addition the Rothschild venture faced growing competition from engineering firms based in the United States and continental suppliers of metal strip and plating wire. Rothschild, rather than compete, opted to sell this part of the operation to its competitors. By the mid 1960s there was a return of the main business at the Royal Mint Refinery to the treatment of gold and silver. Tring continued to produce specialist items. The opening of the state refinery in Ghana in 1966 was the final

push Rothschild needed to divest themselves of the business and they approached an American firm, Engelhard, who were keen to establish a gold refining operation in Europe. A sale was agreed and the refinery closed in 1968. By 1974 the operation at Tring had also been sold.

The main research question I have addressed relates to the performance of the Royal Mint Refinery and the long and short term challenges that led to its sale. At various points in time the Refinery was on the brink of closure. Throughout the late nineteenth century to the 1960s the London refining industry were exposed to and had to contend with consistent and considerable change and challenges. Predominantly the threat came from external forces rather than a failure by Rothschild to manage resources correctly. The thesis also examines how Rothschild employed monopolies and embraced advances in technology to protect the profitability of the venture.

The thesis also examines the advantages, both real and perceived, afforded to N M Rothschild & Sons in operating the Royal Mint Refinery. How and in what ways did the merchant bank profit from its association with this venture, which was one of the less well known activities with which Rothschild was associated. The study reveals how Rothschild distanced itself from the industrial operation, but, once needed it actively promoted its relationship to the refining of gold. It will be argued that at various points the Royal Mint Refinery enhanced the prestige and confidence in Rothschild through its control and access to gold. Consequently it will be shown that Rothschild's connection to gold projected the firm's position as confidant to the

Bank of England. Rothschild gained a global reputation for treating and handling gold, which in turn facilitated its pivotally important role as chair of the Gold Fixing.

The main problem in writing any company history is to place the story of the particular business concern in its proper context. The main battle faced by the study was locating information to discover what actually happened to the business. Whilst Niall Ferguson had produced the official history of N M Rothschild & Sons in 1998, little attention was given to the refining operation. No official published history of the Royal Mint Refinery has been either commissioned or published. The only trace of the venture was in short reminiscences published by former employees in the merchant bank's annual pensioner's newsletters. After basic background reading and bibliography I received some direction from the Director of The Rothschild Archive (RAL), Ms Aspey, and the archive team at New Court in the City of London.

As a springboard for researching the thesis I was directed to a series of un-catalogued and previously un-examined business records generated at the Royal Mint Refinery since its inception in 1852 located at The Rothschild Archive. Many of the packages, wrapped in brown paper and tied with string for protection, had not been opened since they were first placed into storage. The collection of books, letters, accounts, minutes and other records accumulated in the normal course of business, and documents dealing with property of business and such matters as their relations with other firms and with their own staff. After several months spent examining the contents a picture of the framework and transformation of the business gradually began to emerge.

In addition to source material of records created by the business itself, I also drew on a wide and highly diverse group of materials external to the business in order to provide broader context of the general economic climate at various points in time and the varying fortunes of the industry as a whole. For this reason a copy of the unpublished history of Johnson Matthey & Company located at the Goldsmiths' Hall Library was consulted. I also approached Johnson Matthey to gain access to other archival material in their possession. Whilst I was not allowed access to any materials I was provided with a copy of the unpublished history of the firm, as held by Goldsmiths' Hall. Information held in the archives of the Bank of England (BEA), government agency records located at The National Archives (TNA) of the UK and reports in the press was consulted, which gave guidance of the performance of the company in relation to its immediate rivals. In addition these records provided knowledge of the varying fortunes of export markets of those countries from which raw material was drawn from and the changing domestic circumstances of foreign competitors.

Staff at N M Rothschild & Sons, past and present, was also approached. Directed by Ms Aspey, and the pensioners' welfare officer, a number of employees were identified who generously provided some personal insight into the bullion business at Rothschild and the refining venture in London and factory at Tring during the final stages of the operations. Many shared memories of time spent working for the Rothschild family and tasks they performed. I was also able to speak to one of the Partners, Leopold de Rothschild, and have drawn upon some of his recollections. A small oral history project was also conducted. One drawback in the timing of the

research project was that most employees directly connected to the Refinery had died. However, I was able to cast the net further and contact a number of descendants in order to fill in some gaps that appeared in my research.

Before the paperwork explosion of recent years the average small or medium sized business created only a tiny volume of records and the chances of their survival are consequently even less.⁴ At various points in time destruction notices were issued at Rothschild to free up space for incoming records. In 1963 a destruction notice was issued for a selected group of papers relating to the Refinery between 1935 and 1960, marked as ‘offering little or no further use to the bank’.⁵ Many businesses, especially banks, regard the records arising out of the service provided to their customers as confidential. I have been fortunate that I have been allowed full access to all records relating to the business. The normal closure for researchers is 1945. Due to the collaborative nature of the project I was able to negotiate an extension to the period to 1974. In return the thesis was offered to the business for reading and comment prior to submission as it remains an active business.

As surviving records at The Rothschild Archive were incomplete I turned to original business transactions and material from quality sources. Despite the important role performed by its members the London refining industry received little attention from scholars; Seyd, White, and Kettle are amongst the few that provide an

⁴ John Orbell, *A guide to tracing the history of a business* (Hants: Gower Publishing Company Limited, 1987), p. 10.

⁵ The Rothschild Archive London (hereafter RAL), 148/37/1, ‘Royal Mint Refinery, Archives’, 6 Sep 1963.

account of tasks performed by the industry.⁶ Secondary sources tend to have been produced by a narrow but well informed group of authors, generally made up of contemporaries, associates and former employees of the industry which offered a varied insight into refining operations.⁷ Reference to the practice of refining is also located in literature pertaining to gold, although it generally contains no more than a cursory note.⁸ These have been supplemented by published and unpublished company histories whenever available. The lack of coverage of the industry in London extends to the ‘traditional’ literature on the activities of the Bank of England (the Bank); authors failed to acknowledge that during the early 1920s the Bank built and operated the St Luke’s Refinery in London.⁹ One reason for the oversight of the Bank’s involvement with the ill-fated St Luke’s Refinery may be due to the swift passing of the external threat, which prompted the formation of the venture. However, perhaps the most compelling reason for the lack of coverage thus far is the veil of secrecy and mystery that surrounded the London gold refining industry as

⁶See for example: Ernest Seyd, *Bullion & Foreign Exchanges* (London: Effingham Wilson, 1868); Benjamin White, *Gold, Its Place in the Economy of Mankind* (London: Sir Isaac Pitman & Sons Ltd., 1936); Brian Kettle, *Gold* (London: Graham Trotman, 1982).

⁷ See, for example: Donald Clark, *Gold Refining* (London: Sir Isaac Pitman & Sons Ltd. 1909); Timothy Green, *The World of Today* (London: Arrow Books Ltd, 1973); —. *The New World of Gold* (London: Weidenfeld and Nicolson, 1982); —. ‘Central Bank Gold Reserves, A Historical Perspective since 1845’ *World Gold Council*, Study No. 23 (London: 1999); —. *The Ages of Gold* (London: GFMS Ltd., 2007); —. *The History of the London Good Delivery Gold List 1750-2010* (London: London Bullion Market Association, 2010); —. ‘Precious Heritage, The three hundred years of Mocatta & Goldsmid’ (Unpublished, 1978); Donald McDonald and Leslie B. Hunt, *A History of Platinum and its Allied Metals* (London: Private publication, 1982); Donald McDonald, *The History of Johnson Matthey and Company: Volume One, The Years of Building 1860-1914* (London: Private publication, 1968); —. *The History of Johnson Matthey and Company: Volume Two, The Years of Change 1914-1939* (London: Private publication, 1974); Donald McDonald and Philip G. Smyrk, *The History of Johnson Matthey and Company: Volume Three, The Years of World War Two 1939-1945* (London: Private publication, 1984); T. Rose Kirke and W.A.C. Newman, *The Metallurgy of Gold* (London: Charles Griffin & Co. Ltd., 1937); Philip G. Smyrk, *The History of Johnson Matthey and Company: Volume Four, The Years of Post-War Expansion at Home and Abroad 1946-1966* (London: Private publication, 1991); Ronald F. Wilson, *Two Hundred Precious Metal Years, A History of the Sheffield Smelting Company Limited 1760-1960* (London: Ernest Benn Ltd., 1960).

⁸ For example: William M. Clarke, *The golden thread: world financial centres and the gold connection* (London: Sweet and Maxwell Ltd., 2001); Paul Einzig, *International Gold Movements* (London: Macmillan, 1929); Rae Weston, *A World Survey* (New York: St Martin’s Press, 1983).

⁹ For example: John Clapham, *The Bank of England: A History, Volume 11, 1797-1914* (Cambridge: Cambridge University Press, 1944); John Giuseppe, *The Bank of England, A History from its Foundation in 1694* (London: Evans Brothers Limited, 1966); Richard S. Sayers, *The Bank of England, 1891-1944, Vol. 1* (Cambridge: Cambridge University Press, 1976).

much of the daily operations was performed behind closed doors, for reasons of security and the protection of secrets in the treatment process, which the Refiner ‘jealously and carefully’ kept to himself.¹⁰

Periodic literature by Timothy Green provided a rich source of information about the history of gold, markets and players. Green’s history of Mocatta & Goldsmid was a particularly crucial source for constructing the early history of the London gold market. Green was approachable and generously directed me to other source that proved useful. In particular printed material the annual bullion reports of Samuel Montagu, Sharps Pixley and Mocatta & Goldsmid located at the LSE Library. In addition I have utilised Chairman’s Statements and newspaper reports. Throughout the thesis appropriate literature has been utilised for each chapter making specific reference to events. In each case considerable background knowledge was called for to examine how external processes facilitated the transformation of the market. Chosen literature provided context and background information and helped support the decision making process by Rothschild at a particular point in time. Through these I constructed a broad history of the Royal Mint Refinery.

The story illustrated the relationship Rothschild had to gold. Few business histories offer a better understanding of the gold market than that of N M Rothschild & Sons. The merchant banks involvement in the gold industry stretches back over 200 years. Gold was the main commodity the bank traded in and it specialised in mining investment, transporting, insurance, refining, price fixing and the sale of the precious

¹⁰ Seyd, *Bullion & Foreign Exchanges*, p. 198.

metal. The thesis links past with present; it charts the rise and fall of the refining operation and the pursuit of profitability.

The thesis explores in historical terms how decisions were taken at particular moments in time. The business was complex and its operations were challenging for me to understand. Nevertheless a number of themes emerged from research into the Refinery: The dilemma Rothschild faced was the need to balance heavy investment against the return it received from the operation. The research also offered an insight into Rothschild business methods and relations with the workforce. In addition the strategies employed by Rothschild to limit competition are presented. It illuminates conditions in which the business operated and offered a view of the business from a well informed position. Through analysis of business records key events that changed the trading direction of the operation are identified: increased international competition, difficulties attracting gold to London, innovations and technological breakthroughs, diversification and expansion into light engineering, evolving administrative systems and management styles, changes in employer and worker relations, and the sale of the enterprise- set against a backdrop of international financial crises, two world wars, Britain's changed relationship to Empire gold and the effects of decolonisation.

The historical tale in many ways presents an overview of the political economic history of the London gold market. The Royal Mint Refinery offers a window onto wider international affairs and thus provides an indirect history of world gold market and of the wider political tensions. In spite of the wealth of interest in gold transactions it is remarkable how little is known about the supply-side. The pages

that follow address this. Information about bullion brokers and refineries operating in London provide crucial insights into the business activities of the firms and their social structure.

The history of the Royal Mint Refinery falls into three distinct periods. The first from 1852 to 1918 relates to the establishment and unrivalled position the venture held. The second between 1919 to 1948 represents an era of turmoil and readjustment as the business was subjected to increased international competition, recurring international economic crises, and the disturbance and turmoil of two world wars. The third and final period from 1949 to 1968 marked the modernisation and diversification of the venture before the enterprise was sold at the end of 1967. Due to limitations on word count I would like to clarify that an overview of the first period have been provided in chapter one and two. The main study centres on the second period and form chapters three to seven, and an overview of the third period is provided in chapter eight. Conclusions will be discussed in the final chapter. Each chapter discusses the events that affected the business at a specific point in time, with the exception of chapter 2, which provides an overview of the technological advances at the Refinery from its establishment to the outbreak of war in 1939, a chronological approach was chosen.

Chapter 2 introduces and discusses the operational side of the Royal Mint Refinery. The circumstances of the government lease granted in 1852 to Anthony de Rothschild. It charts the steady rise in business at the Refinery and examines the modernisation of the venture. Apparatus and techniques employed improvements to

make the venture more profitable and able to cope with increased production of precious metals requiring treatment. Eyewitness accounts and photographic evidence have been utilised to describe the working environment and layout of the Refinery.

Chapter 3 discusses the legacy of World War 1, which marked a turning point in the history of the Royal Mint Refinery. In 1919 the Royal Mint Refinery was exposed to greater competition as it was announced that the Transvaal Chamber of Mines was to establish a native refinery, the Rand Refinery, in South Africa. The new venture posed a direct challenge to the survival of the London refining industry. The chapter considers reactions to the news in London and the methods of market manipulation introduced by the Bank of England in an attempt to ensure that gold continued to be sent to the London market.

Chapter 4 focuses on the immediate impact of Britain's return to the gold standard in 1925. Legislation fixed gold at the pre-war price of \$4.26 per ounce. The fixed price placed additional strains on relations between London and South African gold producers. Gold sales were price-sensitive and shipment of gold by-passed London attracted to New York in pursuit of higher profits on offer. The fixed price did nothing to inspire investment in the South African industry and stifled gold production. Operating costs and profit margins suffered. The void left by the dwindling gold shipments to London was filled by increased levels of silver that required treatment. Unfortunately it was not long before the treatment of silver went the same way as gold. Treatment of both precious metals at the Royal Mint Refinery dropped to an all time low as the price of silver plummeted. An improvement in gold

treatment began at the Royal Mint Refinery following the Wall Street Crash in 1929. London became a safe haven for gold. Further improvement was made in 1931 as many countries abandoned the gold standard the constraints imposed by the fixed price disappeared.

Chapter 5 considers the impact from the rise in price of gold following the abandonment of the gold standard in 1931. The increased price of gold ushered in a period of exceptional activity in London. The London refining industry benefitted as shipments of gold returned to London. In 1932 the refineries had a steady trade in the melting of pre-owned gold, scrap gold and coins cast into bullion bars and offered for sale in the market. Staff at the Royal Mint Refinery worked around the clock to deal with the 'gold rush'. The chapter charts the additional strain placed upon the business. The volume of work meant mistakes were made and allegations of fraud were brought by one customer. Business slowed down in 1934 with the introduction of the United States fixed price of gold at \$35 ounce. However, gold soon returned to London as the new price stimulated gold production and new discoveries in East and West Africa, which benefited the Royal Mint Refinery

Chapter 6 examines a busy phase in the history of the Royal Mint Refinery. In 1937 the introduction of Rolling Plant extended the range of products manufactured by the venture. Faced with the prospect of war, treatment of gold and silver at the Refinery reduced and gave way to the production of munitions. As the demand for munitions increased so the scale and pace of work intensified. It was up to Rothschild to ensure its workforce remained on task and motivated. The precarious

location of the Refinery, on the edge of the City close to the docks, meant once enemy air attacks on London began work was frequently interrupted. The decision was made, with financial assistance from the Ministry of Aircraft Production, to establish a shadow factory at Tring. In 1941 the bulk of the operation and workforce transferred to the new site at Tring and for the remainder of the war operated in the relative safety of the Buckinghamshire countryside. In London, a small workforce remained at the Refinery that dealt with small amounts of gold for industrial use, and later in 1943 produced small gold bars for export under special licence on behalf of the Bank of England. The period under review ends in 1944 as Rothschild faced the problems of readjustment in the post-war era.

Chapter 7 explores the transition of the Royal Mint Refinery from trading in war to peace. Hit by the scaling back of Government munitions contracts and bound by the continued war-time restrictions imposed on industry, the management at Rothschild had the task of seeking out markets that required new products which could be manufactured at the Refinery in London and factory in Tring. The period of transition proved a turbulent time for both operations; strict financial controls were put in place and the services of a commercial sales agent engaged. Either of the sites could have failed. However, by 1948 both had been transformed into viable commercial concerns with a secure outlook.

Chapter 8 summarises the third and final period in the history of the Royal Mint Refinery. It examines how and why the venture was dismantled. It begins with a review of the trading position of the operation during the first half of the 1950s; a period in which profits steadily increased, the Gold Fix returned to Rothschild and

the London gold market reopened. However, by 1955 the outlook for changed and decline set in. The 1960s were a period in which increased competition from US and European markets, the effects of decolonisation and independence of African states impacted on the business operation. The options open to Rothschild are examined. Finally, the sale of the Refinery and the eventual sale of the factory at Tring are discussed.

Chapter 9 provides a summary of the thesis and conclusions are presented. Britain's changed relationship to gold is also discussed and the transformation of the London gold market and the new role for gold. I discuss why Rothschild finally sold the business in 1967 and how it maintained its relationship to gold through the firm's chairing of the daily Gold Fixing. Whilst the physical handling of gold ended Rothschild projected its position to gold through the Gold Fixing.

From the outset I would like to explain the terminology used to talk about each entity in order to limit any confusion. When discussing the business operations of 'N M Rothschild & Sons' and the 'Royal Mint Refinery' the following terms are used throughout the study 'Rothschild' 'the firm' 'Rothschild refinery' 'the merchant bank' 'operation' and 'venture'. 'Partners' makes reference to family members actively working at the bank (Appendix 1). A list of Managers at the Royal Mint Refinery has been provided (Appendix 2). When I speak of the London gold market I refer to all basis of gold trading in London and means the Gold Fixing and over the counter transactions. It also refers to the organisation of five companies formed to oversee the operation of the gold market in London. Reference to trading in the City

of London is often abbreviated to ‘the City’. The Bank of England is often referred to as ‘the Bank’. Johnson Matthey & Company is generally referred to as Johnson Matthey. Throughout the thesis pre-decimal currency (sterling), pounds, shillings and pence (£ s d) is used. A guide of weights and measurements applied to gold is provided (Appendix 3). Estimated world gold production, 1887-1968, are provided (Appendix 4). Throughout the thesis, unless stated otherwise, an ounce refers to ‘fine’ gold.

Chapter 2.

The early years at Royal Mint Street, 1852-1938.

This chapter introduces the operational side of the Royal Mint Refinery. During the 115 years that Rothschild operated the Refinery its main business premises were located at 19 Royal Mint Street and adjacent land. At various stages additional sites were also utilised; Wood Street (1897), the Old Silk Mill at Tring (1941), and the James Royce Works at Chertsey, Surrey (1943). Explanations for the additional sites will be dealt with chronologically throughout the thesis. The chapter provides an overview of the early period for the business, how it was established and the modernisation, improvements and technological advances that took place. The character of the venture is explored through written testament and images and provides an insight into the daily activities of the operation. The review ends in 1938, just as the Royal Mint Refinery entered a new phase of modernisation in preparation for the production of munitions and the establishment of a shadow factory at Tring (discussed further in chapter 6).

For centuries both the refining of gold and the minting of coins in England had been the responsibilities of the Master of the Royal Mint, an office created in the sixteenth century. The Mint itself had been located in the Tower of London from the late thirteenth to the early nineteenth century, until the demands of new steam press machinery necessitated a move into new premises a short distance away at Tower Hill. In 1806 work commenced on the new purpose built structure, designed by James Johnson and finished by his successor Robert Smirke. The new site was located in Royal Mint Street, formally part of Rosemary Lane. Construction costs

were in excess of £300,000 and the main building was ‘handsome and dignified.’¹¹

Buildings to the rear of the main building housed new machinery and equipment.

Accommodation for senior members of staff had been part of the original design

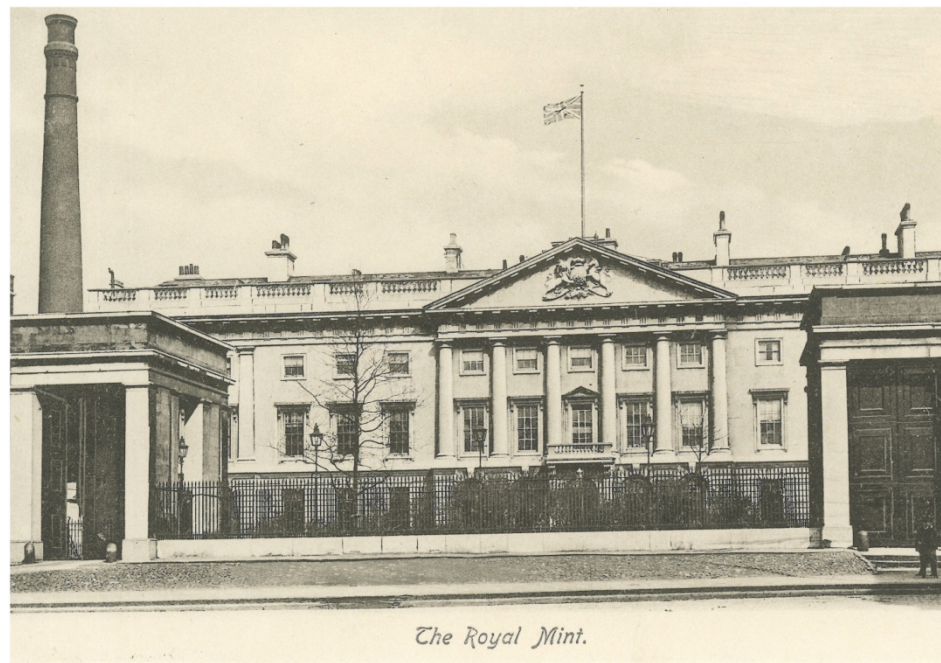
remit. The original architect plans show that the refinery had been located to the left

of the main building. The refinery chimney, erected to carry away the noxious gases

produced by the refining process, towered over the three storey buildings that

surrounded it.

Figure 1. ‘Royal Mint, London’¹²



The occupation of the premises in Royal Mint Street by Rothschild formed part of the original lease agreement signed by Anthony de Rothschild on the 3 February 1852. The property stood between the City of London and the East End. Transport links, the docks to the south and railways to the north, meant the Refinery was well placed to receive consignments of gold sent to London for treatment. The lease had previously been offered to refiners Johnson Matthey & Company, established in

¹¹ G. P. Dyer, *The Royal Mint, An Illustrated History* (Cardiff: Royal Mint, 1986), p. 27.

¹² ‘Royal Mint, London’, n.d., reproduced courtesy of the Royal Mint Museum.

1817 and located in Hatton Garden, but the firm declined the offer. Rothschild was charged a rent of £200 per annum which included all machinery at the premises. Under the terms of the contract the newly established Royal Mint Refinery was required to receive 100 lbs of precious metal consigned by the Master of the Mint and to return the correct quantity of refined metal within fourteen days.¹³ The contract also called for the erection of a boundary wall between the Royal Mint and the new Rothschild venture. Once constructed the wall sealed the Royal Mint operation and created a self-contained area for the Rothschild refinery with a separate courtyard and entrance. The decision to add the word ‘refinery’ to the previous title of the Royal Mint was a fortuitous one, affording an element of anonymity for Rothschild, whilst they also gained what would today be described as a world recognisable ‘brand’.

Donald Clark has observed that many English refiners adopted the French methods of refining.¹⁴ Certainly an interesting aspect of the new Rothschild venture was its Anglo-French nature. First of all Lionel de Rothschild, Anthony’s elder brother, took the advice of his uncle in Paris, Baron James, who already had experience of gold refining through a joint venture in Paris with a business partner called Michel Benoit Poisat.¹⁵ Lionel decided to work with Poisat in developing the London refinery. It is clear that the family felt that there were advantages as well as disadvantages to this sort of partnership. For Nat, the younger brother of Lionel and Anthony, who was by that time working in the Paris Office, observed that ‘you will

¹³ RAL, 148/29, Draft for *The Times*, ‘Royal Mint Refinery Centenary’ (1952).

¹⁴ Clark, *Gold*, p. 2.

¹⁵ Ferguson, *The House of Rothschild. The World’s Banker 1849-1999, Volume 2* (New York: Penguin Group, 1998), p. 70.

regret it if another firm go with it.’¹⁶ However, Nat also added a word of caution, as can be seen in this note to his brother Lionel:

[Poisat] is a cunning old fox and much more interested than formerly ... he has got plenty of money and likes adding to it. Nevertheless, he is a clever man and understands his business amazingly well. In a word, I think you had better come to terms with him, let him have half and keep the other for yourselves, but don’t make your contract more than three years. At the expiration of that period the affair will be so well organised that you will not want our friend Poisat and will be able to manage it yourselves.¹⁷

It seems that Lionel followed Nat’s advice to the letter and a contract was signed by Poisat, who served as the first manager of the Royal Mint Refinery from 1852 until 1854. The Anglo-French aspect to the venture went even further. Aside from an extensive knowledge of refining processes Poisat brought with him an experienced workforce from the Normandy area of France and introduced a sulphuric acid recovery plant, managed by the French workforce.¹⁸ Anthony was fortunate that through the family’s French connection he was able to access the closely guarded secret of the refining process, which were then passed down through generations of men who worked at the refinery. In 1856, having established the Rothschild London refinery, Poisat was engaged by the City merchant banker, Henry Lewis Raphael, to establish a refinery for the Raphael Bank at Limehouse, a few miles away from the Royal Mint Refinery.¹⁹

The establishment of the Royal Mint Refinery coincided with the acceleration in world gold production levels that were seen throughout the nineteenth century.

Between 1800 and 1850 levels of new gold production were recorded at around 38

¹⁶ RAL, T8/330, Business and family letters 1852, ‘Nat to Lionel’, 31 Mar 1852.

¹⁷ RAL, 000/1242, Spencer Richards, ‘The Early History of the Royal Mint Refinery’ in *N M Rothschild & Sons, Pensioners Newsletter*, No.5, Mar 1989.

¹⁸ RAL, 000/1242, Spencer Richards, ‘The French Connection’ in *N M Rothschild & Sons, Pensioners Newsletter*, No.12, Mar 1996.

¹⁹ Ibid.

million fine ounces.²⁰ However, from 1851 production levels soared to over 334million fine ounces following the new gold discoveries in California from 1848, Australia from 1851 and South Africa from 1884.²¹ By 1856 the combined refining capabilities of the leading London refining houses, Rothschild, Johnson Matthey and Raphael, produced 120 gold bars a day.²² Timothy Green has suggested that the gold rushes created the modern market through the expansion in refining and the acceptance of gold bars treated at the Rothschild and Raphael refinery's by the Bank of England; the bars were assayed by the independent firm operated by Frederick Claudet, the Bank of England's approved assayer in London. A general flurry of activity of brokers arriving in the London market can be observed around the same period and are names that remain visible today; alongside Rothschild and Johnson Matthey are Mocatta & Goldsmid, Sharps, Pixley, and Samuel Montagu.²³ By the turn of the twentieth century refineries had been established in California and Australia catering for locally-mined gold, by 1905 the Royal Mint Refinery was reported to be refining annually 3.3 million gross weight ounces of gold, rising steadily to 6.8 million by 1913, the majority of which originated in South Africa.²⁴

A sign of the profitability of the Royal Mint Refinery was the move taken by N M Rothschild & Sons in purchasing the freehold of 19 Royal Mint Street in 1853 for a sum of £900.²⁵ The purchase was the first of many in the Tower Hill area; over the next twenty years a number of surrounding properties were added to the Rothschild portfolio. In 1855 £5,000 was paid for buildings at 23-26 Rosemary Lane and 1-5

²⁰ *The Times*, 'Gold', a reprint of the Special Number, 20 Jun 1933, p. 21.

²¹ *Ibid.*

²² Green, *The History of the London Good Delivery Gold List*, p. 25.

²³ *Ibid.*

²⁴ RAL, 148/24/3, 'RMR Silver and Gold Treated from 1 Jan 1905 – 31 Dec 1948'.

²⁵ RAL, 000/717, Correspondence file, 'Royal Mint Street Leases'.

Torr Court. In 1856 eight houses in St Petro Court along with 27 Rosemary Lane and 6-8 Torr Court had been purchased for a combined total of £2,284.²⁶ The Rothschild portfolio was expanded further in 1858 when £7125 was paid for 20-22 Royal Mint Street, from a syndicate headed by a Miss Shepherd.²⁷ Finally 140 Royal Mint Street was added in 1871, purchased from Edward Keymez for £700.²⁸ Part of the site was cleared and flats erected, which were available for rent by those working at the refinery.²⁹

Peter Scott and Peter Walsh have suggested that Rothschild took advantage of its location. The dominant position of the Refinery and the surrounding area, its close proximity to main ports for international trade and inland transport systems, they suggested provided ‘strong market access advantages’.³⁰ The Refinery was also close the Bank of England and New Court, the head office of N M Rothschild & Sons, which held certain advantages as gold was transported easily between the three sites. Meanwhile the legacy of the East End for cheap labour and at first cheap property prices enabled Rothschild to capitalise on their earlier investments as prices rose and development opportunities became more infrequent. Subsequent expansions to the Refinery in the 1930s would reap the benefits of the earlier land purchases, unlike

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

²⁹ In 1884 Alfred Charles de Rothschild acquired from the Metropolitan Board of Works a freehold plot in Cartwright Street, just off Royal Mint Street, that would be retained for eighty years for the express purpose of building and maintaining suitable artisan dwellings adequate to accommodate at least 100 workers and their families. From 1885 Rothschild purchased land in Flower and Dean Street, once reputed to have been the worst slums in the East End, cleared the site and erected a number of flats in the Rothschild Buildings. The flats were home to both Jewish and non-Jewish residents. Source: Jerry White *Rothschild Buildings, Life in an East End Tenement Block 1887-1920* (London: Pimlico, 2003).

³⁰ Peter Scott and Peter Walsh, 'Patterns and determinants of manufacturing plant location in interwar London' *Economic History Review*, 57 (Feb 2004), 109-141 (p. 111).

their main competitor, Johnson Matthey & Company, who in the 1930s had to relocate the growing operation outside the City.

General maintenance issues for the building at the Royal Mint Street were attended to by maintenance staff retained by the firm. Although in 1900 a problem occurred with the main boundary wall, erected fifty years earlier, which separated the Royal Mint from the Rothschild refinery. The wall required attention following the appearance of a large crack. Permission was sought by the Royal Mint to send a surveyor and the Clerk of Works to visit the refinery and carry out an inspection to establish a likely cause for the problem.³¹ The cause of the crack could not be determined and the party wall was rebuilt.

Despite the important task undertaken by the refiner, removing impurities from raw gold and transforming it into a tradable commodity, there is a general lack of coverage on the subject in literature. Benjamin White noted that when discussing the production of gold and silver currency ‘we really know very little of the things with which we are most familiar’.³² He was drawn to the mystery that surrounded the early refining process and in the belief that the refiner possessed supernatural powers. The claim was made by those who saw ‘the flames smoke and pungent fumes which occupied the operations, together with the weird appearance of the appliances’ used, which increased the awe with which the common people regarded

³¹ RAL, V11/36/1, ‘Clerk of Works, Royal Mint’ Letter to N M Rothschild & Sons’, 27 Feb 1900.

³² Benjamin White, *Silver, Its History and Romance* (London: Hodder & Stoughton, 1917), introduction.

the science.’³³ In 1868 Ernest Seyd, banker and economist, provided an early account of the refiner at work:

The melter, standing before the furnace, places the mould on the ledge of it... he then examines the fire, poking it with an iron rod, or slightly tapping the moveable bars... with a pair of long tongs, he lifts up the top of the crucible, to see whether the contents are running. If he thinks it advisable, he throws in a little flux to clear the surface... the heat is very intense at this stage of the melting, sufficiently so indeed to scorch the faces of lookers-on who may be standing four or five feet off. The melter is accustomed to it... he wears on one hand a glove...although dampened; [the glove] is frequently on fire.³⁴

The refiners skill was in his accumulated knowledge of the treatment process, the finely balance chemical compounds and the right moment to remove the gold from the heat. Although glimpses into the refining process are available, the process is generally hidden from view. Mines produce different grade ore; coins contain different alloys and impurities and no two treatments are the same. The skill of the refiner was to ensure that all impurities were removed using the cheapest available method.

Donald Clark has suggested that the purification of alluvial gold ‘is a simple matter’.³⁵ He set out many of the methods used by refineries in *Gold Refining* and suggested that the value of a refinery is in the technical expertise of its staff.³⁶ This was a sentiment shared by Donald McDonald, an employee of Johnson Matthey & Company, who observed that ‘the price of gold is based on the weight and nature of the work of the refiner to remove impurities and produce a fineness of 999.9’.³⁷ Far from a simple process, in fact, the refining of precious metals is a specialist art. The end result is the production of a gold bar and the pedigree of the bar should be undistinguishable. Once all impurities are removed the origin of the gold becomes

³³ Ibid, p. 88.

³⁴ Seyd, *Bullion and Foreign Exchanges*, p. 124.

³⁵ Clark, *Gold Refining*, p. 2.

³⁶ Ibid.

³⁷ McDonald and Hunt, *A History of Platinum*, p. 57.

untraceable. The only feature that sets each bar apart are the refiners stamp, and a unique serial number.³⁸

In 1897 Rothschild purchased the failing refinery Browne and Wingrove, located at 30 Wood Street. In the past the Refinery held a pre-eminent position in London.³⁹

In 1868 Browne and Wingrove, along with the Rothschild refinery, were listed as being the chief melting establishments in London.⁴⁰ However, the management of

Browne and Wingrove failed to move with the times and implement the technological advances that occurred towards the end of the nineteenth century.

Much of the firm's equipment and apparatus was outdated, and the firm relied upon the refining processes that stemmed back to the eighteenth century. The premises at Wood Street, together with all equipment and stock formed part of the deal.

Rothschild renamed the venture Wood Street Smelting and retained many of the original staff, although a new manager was engaged to deal with the daily operation of the venture. The refinery was turned over to smelt light coin bars and remelt imported bars. Timothy Green reflected that this was 'a quiet ending' for the refinery.⁴¹ The site was closed in 1903. It has been rumoured that when the smelting

works were dismantled gold and silver recovered from the site was valued at a few

thousand pounds. In 1896 Rothschild conceived plans to redevelop the site with the assistance of P Lawrence & Sons. It was proposed that the existing building be

demolished and replaced. The cost of the transformation was quoted at £2064, which

³⁸ Green, *The History of the London Good Delivery Gold List*, p. 40.

³⁹ Browne and Wingrove was formed in 1838. The firm of 1838 had evolved from a series of mergers dating back to 1754. The earlier partnership of Plumbe and Browne in 1768 had become the official melters to the Bank of England.

⁴⁰ Seyd, *Bullion and Foreign Exchanges*, p. 8.

⁴¹ Green, *The History of the London Good Delivery Gold List*, p. 28.

included negotiating for the adjoining properties.⁴² Whilst the site was redeveloped it is not recorded if Rothschild was involved.

Control of the Royal Mint Refinery passed directly into the name of N M Rothschild & Sons following the death of Anthony in 1896. Activities at the Refinery were affected by the Boer War, 1899-1902, which severely curtailed South African gold mining and gold sent to London for treatment. However, once the constraints of war had been removed gold production soared and levels increased from 1.6 million ounces to in excess of 9 million ounces.⁴³ The Royal Mint Refinery was at full stretch. Charles Rothschild, Partner at N M Rothschild & Sons between 1897 and 1923, sought to promote new methods of refining. Charles, a keen scientist, engaged an expert from the Paris refinery, Comptoir Lyon-Alemand, to provide a report on the separation of gold and platinum by electronic methods. The method of treatment had been advanced at the Sydney Mint since 1867.⁴⁴ This method of refining was subsequently adopted and the old sulphur method of refining was replaced by the new chlorine method. Lodge Cottrell plant was installed at the refinery in 1912. The process substantially reduced the loss of gold and silver from the refinery chimney during treatment. Research undertaken by Scott and Walsh into the localised development of industries highlights how the modernisation of the Rothschild refinery was reflective of the refining sector.⁴⁵ As the Royal Mint Refinery became more exposed to competition, from other London refining houses as well as international establishments, Partners had to seek out more advanced and cost

⁴² RAL, X1/111/181, 'Rebuilding Receipts, 29 Wood Street EC, (1896-7)'.

⁴³ Green, *The History of the London Good Delivery Gold List*, p. 29.

⁴⁴ RAL, 000/1242, Spencer Richards, 'The Royal Mint Refinery in the Twentieth Century' in *N M Rothschild & Sons, Pensioners Newsletter*, No.6, Mar 1990.

⁴⁵ Scott and Walsh, 'Patterns and determinants', pp. 114-5.

[illegible]

⁴⁶ RAL, 148/15, ‘RMR Insurance Plan 1927’, produced by Alliance Assurance.

connections attracted consignments of bullion for treatment to the firms London refinery. An observation also made by Ernest Seyd in 1868 who noted that ‘when large refineries are carried on in connection with banking the bullion operations, they have an influence on the supply and demand of the precious metals in the market, and thereby yield indirect profits.’⁴⁷

White also considered that ‘the upkeep of such an establishment as a refinery, quite apart from its commercial character, is a source of legitimate pride to its owners.’⁴⁸

Although limited White’s observations and description of the treatment of silver and of employees of the refinery does provide a limited account of the working character of the Royal Mint Refinery:

The exterior of the Refinery is lofty and massive, and the visitor, as he passes through a wicket-gate in the huge doors, receives a first impression of security and space. He crosses the ample yard and becomes conscious of a somewhat sickly pungent smell, regarding which he is informed, casually, ‘Oh! That is only SO(2).’ The first room, about forty feet square, is used for weighing; six large balances within glass cases range the walls, a counter occupies the centre, and stacks of silver bars, fine and otherwise, are on the floor.

The actual refining takes place in a fine central hall, with annexes where minor details are dealt with. Five sets of apparatus stand side by side, each composed of a series of three tanks, two covered and on a high platform and one uncovered on a lower level. The liquid, with precious metals held in solutions, flows down to the lower tank, which measures about 12 feet by 6 feet and is about 3 feet deep. From the open tanks steam rises in clouds, for the contents are heated to 1000 degrees Celsius and the tanks are continually stirred with long poles to assist the action of the acid. The sulphate of copper in the solution gives a beautiful blue tint to the contents.⁴⁹

The account described in detail the atmosphere of the refinery and the unknown smells the visitor would encounter. George Buess, refinery manager 1912-1937, accompanied White on his tour of the Royal Mint Refinery. White recorded the

⁴⁷ Seyd, *Bullion and Foreign Exchanges*, p. 199.

⁴⁸ White, *Silver*, p. 97.

⁴⁹ Ibid, pp. 97-8.

‘courtesy of the manager, his anxiety to explain the process and his perfect mastery of the details showed that his interest charge was by no means regarded in the light of a mere duty.’⁵⁰ White also observed that ‘around the central apparatus lies precious material in various stages of purity. The exposed heap of fine gold, in appearance like wet clay sand, demonstrates the need for perfect confidence between employer and employed.’⁵¹ However, according to Seyd it was not just confidence between an employer and his staff but a matter of effective deterrent:

The uninitiated might be led to think that the workmen in a Refinery, where such large masses of Bullion are under their hands, could pilfer without detection. The exact quantities of gold and silver present are, however, known with almost mathematical accuracy, and the precious metals pass from hand to hand, or in the charge of foreman, in such a way that robbery becomes almost impossible, or is, at least, at once detected.⁵²

Reports of theft by employees at a number of the London refineries can be found in court reports published in the press. Isolated cases did occur at the Royal Mint Refinery and if caught the matter was referred to the police and court for prosecution.

On the outbreak of war in 1914 business activities at the Royal Mint Refinery were once again severely curtailed; a result of the limited gold mining activities in South Africa and issues that arose over safe transportation of gold to London for treatment. Throughout the conflict the refinery marked time by treating small parcels of gold and silver, which arrived in London. Much of the machinery at the refinery stood idle until the end of war. It was not until 1919 that shipments of gold returned to London and a sharp recovery was experienced by the Refinery. According to White during the early 1920s the Rothschild refinery in Royal Mint Street handled

⁵⁰ Ibid, p. 99.

⁵¹ Ibid.

⁵² Seyd, *Bullion and Foreign Exchanges*, p. 198.

more gold than any similar institution in the world.⁵³ Following the death of Charles in 1923 business and family interest for the Royal Mint Refinery continued under the management of the remaining two Partners brothers Lionel and Anthony. Between 1919 and the outbreak of war in 1939 the Royal Mint Refinery underwent a series of changes incorporating the modernisation of equipment, methods of production and range of products manufactured.

In 1927 the Refinery underwent a planned modernisation that began with the installation of new electrical plant, housed in a motor generator room, which powered 24 electrolytic tanks employed to recover copper.⁵⁴ At the beginning of the 1930s oil tanks, with a capacity to hold 10-15 tons, were installed.⁵⁵ In 1932 the installation of a new precipitator was discussed. The old equipment had formed part of the 1912 upgrade of machinery at the refinery and whilst frequent modifications had been made to the machinery it was thought that the equipment, compared to the competition, had become outdated. The study findings noted that:

the chief disadvantages of the present treater [were], the inability for quick and efficient cleaning of the various components and its lower capacity for gases than the newer type... much [had] been expected from the existing plant and results proved the justification of our expectations, as far as its precipitating abilities are concerned. We were informed, at the time of installation, that the plant was the first and best of its kind to be employed for the recovery of precious metal fume.⁵⁶

A quotation for an oil fuelled precipitator was provided by the Lodge Cottrell Company. The new type of machine was thought to be far superior to the old one and capable of treating a higher volume of fume with a greater velocity being recovered by the new machine. The cost of the new machinery would partly be

⁵³ White, *Silver*, p. 97.

⁵⁴ RAL, 148/15, 'Study: replacement of refinery equipment', 4 Jul 1932.

⁵⁵ Ibid.

⁵⁶ Ibid.

funded from ‘sweeps’, or metals recovered from the old plant, and the improved capabilities would ‘speedily compensate the initial outlay.’⁵⁷ Impurities that remained in the bottom of the cell and plant were periodically removed and placed with other residues for ‘sweeps’, where the smallest valuable particles present were recovered.⁵⁸ It was suggested that if the apparatus could be erected outside it would free up space within the factory. It was deemed a ‘valuable extension’ to the refinery.

Benjamin White, through his research into and experience of the metallurgy trade, described the considerable trade that was done in trade waste, or ‘sweeps’. He noted the great lengths that firms went to gather up the fragments of precious metals lost in the refining and articles being manufactured. White explained how in previous centuries in the engraving trade, the engravers wife carefully swept the benches and workshops and any particles were collected, for it used to be customary for an annual sale of sweep, and any profit made was kept by the engraver’s wife for pin money.⁵⁹ Victor Rothschild, during a short period of working at the Royal Mint Refinery in the 1930s, had enjoyed the ‘annual saturnalia of burning the wooden staircases and sabots to extract the gold dust.’⁶⁰ The ritual guarded against the loss of valuable quantities of gold and silver. Spencer Richards, employed at the Rothschild refinery during the 1950s and 1960s, made reference to the annual pursuit when the roof would be swept, and the settling tank rain water drained into emptied ‘the mud cake could yield gold at the rate of 15 troy ounces per ton! Not that there was ever a ton to be seen.’⁶¹ The annual ritual also included the burning of ‘used crucibles, refining

⁵⁷ Ibid.

⁵⁸ RAL, 148/29, Draft for *The Times*, ‘Royal Mint Refinery Centenary’ (1952), p. 4.

⁵⁹ White, *Gold*, p. 16.

⁶⁰ Kenneth Rose, *Elusive Rothschild, The life of Victor, Third Baron* (London: Weidenfeld & Nicholson, 2003), p. 38.

⁶¹ RAL, 000/1242, ‘The Royal Mint Refinery in the Twentieth Century’, p. 7.

bricks and wooden floors , dust from the walls and even workmen's clothing and in the air of the refinery [was] sampled and assayed and the metal separated.'⁶² Figures shown in Table 1. highlight the importance to the refinery of the valuable refiner's bonus ounces recovered during the interwar period.

Table 1. 'RMR Inter-war Refiners gold Bonus, 1919-1939'

Royal Mint Refinery Inter-war Refiners Gold Bonus Ozs 1919-1939			
Year	Bonus Ozs	Year	Bonus Ozs
1919	4300.146	1930	No Sweeps
1920	5262.168	1931	No Sweeps
1921	4525.499	1932	6233.342
1922	3498.320	1933	3074.655
1923	1332.545	1934	3078.285
1924	2916.069	1935	4659.560
1925	1279.871	1936	6434.428
1926	1503.179	1937	1752.733
1927	654.780	1938	No Sweeps
1928	1316.010	1939	4875.671
1929	774.803		

Source:RAL, 148/24/3,' RMR Silver and Gold Treated 1 January 1905- 31 December 1948'.

During certain years, no sweeps were collected but, as would be expected, the greatest quantity of bonus ounces coincided with the busiest periods of activity at the refinery.

In 1933 the Royal Mint Refinery appeared in a special editorial supplement that accompanied *The Times*.⁶³ Entitled the *Gold Number* the special edition featured a

⁶² RAL, 148/29, Draft for *The Times*, 'Royal Mint Refinery Centenary', (1952).

⁶³ The release of the special edition coincided with the World Economic Conference (WEC). 1000 Delegates from 60 countries around the world attended the London conference. The months leading up to the conference were surrounded by press speculation about the effectiveness of the event. Topical issues included the re-establishment of the gold standard in Britain and although reparations payments had been settled prior to the conference Anglo-American relations remained strained. Prior to the conference in April 1933 President Roosevelt had placed an embargo on the export of gold, unless by licence. The move was an attempt to restore some degree of economic stability for the United States. Conference discussions centred upon measures to fight global depression, revive international trade and stabilise currency exchange rates. The conference was not a resounding success and eventually collapsed. Gold generated confidence and the psychological impact of large sums of gold held in London reflected this. For a fuller account of the WEC and outcomes. See,

series of articles that promoted Britain's relationship to gold and the various stages of the trade around the world. Articles described the mining process through to the sale of the refined gold bars. It promoted imperial relations between Britain and the main gold producing countries; in particular Canada, South Africa, Australia, New Zealand and India. Featured articles included a history of early gold production juxtaposed to the modern methods and equipment used in operation in the twentieth century. The breadth of coverage related to gold in legends, literature, art, crafts, monetary use, salvaged gold, mining refining and sale. Advertisements appeared at regular intervals for mining equipment and company mining shares. Photographs accompanied many of the articles. The section on London included the refining of gold. The series of photographs taken at the Royal Mint Refinery showed the process of refining and techniques engaged. However, only three images were eventually selected and printed in the *Gold Number*. These selected images provided an insight for readers into a mysterious world and represented the main stages in the treatment of gold. The accompanying article offered readers a rare behind the scenes view of the treatment of gold at the Royal Mint Refinery.

Thirty of the photographs produced for *The Times* article, replicated and framed, today hang at the bank in New Court. Staff and clients frequently pass them on their way to the Rothschild meeting rooms. No use has been made of captions to inform the audience of the scenes and how the images fit into the history of Rothschild. Few people are aware of the bank's connection to the Royal Mint Refinery. The name

Gianni Toniolo, *Central Bank Cooperations at the Bank for International Settlements, 1930-1973* (New York: Cambridge University Press, 2005); Zara Steiner, *The Lights that failed: European International History 1919-1933* (USA, Oxford University Press, 2007); Peter Clarke, *Keynes, The Twentieth Century's Most Influential Economist* (London: Bloomsbury, 2009). For an American perspective see David Farrer, *The Warburgs, The Story of a Family* (New York: Stein and Day, 1977). James Warburg was the US financial advisor at the WEC appointed by President Roosevelt.

Rothschild did not appear in the company title, publicity was not ordinarily courted by the firm. The utmost discretion surrounded the venture, generally only those in the bullion and refining trade, were aware of the full extent of Rothschild's activities. Although not 'mirrors of reality' the images prove a major source of information as they not only captured and represented people and events at the Refinery but they also reflected the mood of the nation. The photographs are rich with information relating to the layout of the refinery, cultural elements and dress codes; they offered an insight into the glamorous attraction of gold and reflected the hard toil endured by employees of the Refinery who physically handled the vast quantities of bullion entering the country during the 1930s.

Rothschild commissioned a two page front cover to accompany the special gold edition. These were probably forwarded to international clients of the bank. The cover was a replica of the usual front pages of the newspaper with *The Times* in the masthead and underneath it an illustrated drawing of New Court, produced by Sydney R Jones.⁶⁴ At the bottom of the front page the firm announced its relationship as proprietors of the Royal Mint Refinery, refiners of Gold, Silver and other Precious Metals.⁶⁵ The remaining pages contained the end of year results of various mining organisations. In the main body of the special supplement a whole page was dedicated to the London refineries. The important relationship to platinum of Johnson Matthey & Company was reported and the advances made by the firm since 1919, following a period of modernisation by the firm, which incorporated a chemical laboratory that investigated new methods of metallurgy. No photographs of the Johnson Matthey operation appeared in the special editorial. Editorial space

⁶⁴ *The Times*, 'Gold', 20 Jun 1933.

⁶⁵ *Ibid.*

would have been at a premium and the three selected images represented the main stages of the refining process. Image one (Figure 3.) depicted the first stage of the process where gold was received at the Royal Mint Refinery, misshaped and rough cast. The second image (Figure 4.) depicted the physical change from rough to polished gold, the refiner's added value to the process removing impurities and transforming the physical shape of the gold into recognisable 400 Troy ounce bars. The final image (Figure 5.) represented the transformed gold, the final part of the refining process.

The subject of the first photograph featured was a consignment of gold from India. The image was set in the bullion room, described as the heart of the refinery, where staff opened the

Figure 3. 'RMR, consignment of Indian Gold for treatment, 1933',⁶⁶



wooden crates the gold had been packed in for the journey to London. Details of how the ore, whilst in India, had been crushed and undergone a concentration process where the gold had been separated from any base metals present. The concentrates were then melted and turned into rough cast bars and shipped to the London

⁶⁶ RAL, 000/376/1, Royal Mint Refinery Album, 1933, 'RMR, consignment of Indian Gold for treatment'.

refinery.⁶⁷ It was these rough cast bars that appeared in the published photograph. Once checked and weighed they were sent to the melting room. An accompanying explanation informed the reader that ‘some £50,000,000 of Indian gold was refined in Britain during the last six months following the abandonment of the gold standard.’⁶⁸ Weekly bullion reports, produced by Samuel Montagu & Company, frequently charted large quantities of gold shipped from India throughout 1933.⁶⁹ An increased sum insured for gold at the refinery was recorded, from £300,000 to £700,000 in November 1931, this reflected the increased quantities being received from Bombay.⁷⁰ By 1933 the Rothschild refinery had a refining capacity of around £1,000,000 worth of gold in twenty four hours.⁷¹ The bullion room, described as the scale room on the premises plan prepared in 1927 by the refinery’s insurers Alliance, placed the room next to the main office.

Norman Raven, a member of the bullion department during the 1930s, observed that generally gold arrived at the refinery on a Monday aboard the South African mail boats and was marketed by N M Rothschild & Sons on Tuesday.⁷² However, gold refined for *The Times* article arrived on the Thursday afternoon and was ready to leave the following day. The consignment produced 219 bars of 400 troy ounce bars. Gold was moved the short distance from the scale room across the yard in to

⁶⁷ RAL, 148/37/1, ‘Memorandum to Edmund de Rothschild describing existing refining techniques’, 11 Mar 1964.

⁶⁸ *The Times*, 20 Jun 1933, p. xxi.

⁶⁹ Throughout 1933 the weekly reports offered by brokers Samuel Montague & Co. described large shipments of gold arriving from India.

⁷⁰ RAL, 148/12, ‘Letter received from Alliance Assurance Company Ltd to N M Rothschild & Sons Bullion Department’, 12 Nov 1931.

⁷¹ *The Times*, 20 Jun 1933, p. xxi.

⁷² RAL, 148/24/7, ‘Evidence provided to Bischoff & Co., acting on behalf of the Iraq Petroleum Company by Norman Raven regarding Mechanism of the Gold Market’ (1951), p. 6.

the foundry, marked L and K on the insurance plan (Figure 2.), relayed on sturdy trolleys with iron wheels.

Figure 4. ‘RMR, Gold being cast into bar under a gas flame, 1933’⁷³



Figure 5. ‘RMR Gold Bars ready for sale, 1933’⁷⁴



Figures in Table 2. charts the monthly amount of gold and the adjusted average value received at the refinery throughout 1933. In excess of 8.5 million ounces of

⁷³ RAL, 000/376/1, Royal Mint Refinery Album, 1933, ‘Casting – Gold being Cast into bar under a gas flame at the Royal Mint Refinery’; This is the last stage in the refining process, the gas flame giving the surface a high polish.

⁷⁴ RAL, 000/376/1, Royal Mint Refinery Album, 1933, ‘Ready for the Market’; Gold Bars which have been weighed and checked ready for sale in the gold market. Each of the bars shown is worth about £2,500 (1933).

fine gold at a market value of just below £54.5 million was processed by the refinery during 1933.

Table 2. 'RMR 1933 Treatment of Gold'

Royal Mint Refinery - Receipts of Gold (in Fine Ounces) January - December 1933				
1933	Fine Ounces			£
January	393,730.347	@	122/5.75	£2,411,188
February	291,372.711	@	120/8.5	1,758,556
March	676,090.133	@	120/3.5	4,066,400
April	582,968.569	@	120/7.75	3,516,636
May	1,054,668.520	@	123/4.5	6,505,987
June	833,367.783	@	122/3.5	5,095,697
July	780,328.011	@	123/11.75	4,837,221
August	529,021.761	@	125/8.75	3,325,673
September	950,347.009	@	131/4.25	6,239,475
October	980,347.009	@	131/6.5	6,447,824
November	1,074,662.187	@	128/8.75	6,917,018
December	529,542.225	@	126/2.5	3,341,632
Total	8,676,446.265			£54,463,307

Source: RAL, 000/604A/39, 'Receipts of Gold 1933'.

The second image (Figure 4.) provided an action shot of the physical change of the refining process. The description that accompanied the photograph noted:

Casting – Gold being cast into bars under a gas flame at the Royal Mint Refinery. This [was] the stage where gold was turned into the cask and had been chemically changed during the refining process, the gas flame gave the surface a highly polished appearance.⁷⁵

Two of the refinery workers can be seen engaged in turning the gold out into casks, whilst their colleagues looked on. All workers wore wooden clogs and protective sabots, whilst arms and hands in the direct line of the flame received additional protection. The wooden refinery floor can be seen in the photograph. In the background, the working environment is clearly visible; as would be expected dirt surrounded the furnaces and was captured by the photographer. The image provided an insight into the physical characteristics of staff at the refinery; the muscular arms

⁷⁵ *The Times*, 'Gold Number', 1933, p. xxi.

of the workers are clearly on display. The photographer caught a touch of the everyday working life of the Refinery; the shot incorporated a workman's mug in the right hand side and the factory kettle. White in 1912 commented on the relaxed relationship to gold by workers at the refinery. He observed that 'gold, indeed, to the staff of the refinery [was] too familiar to excite the wonder which the occasional visitor [was] bound to feel but a sense of deep responsibility for its handling in every department of the firm is the keynote of the whole operation.'⁷⁶ Today the surviving photographs stir an excitement to most observers for the working environment and quantities of gold handled by the refinery.

In one unpublished shot the recent new electrostatic precipitator was visible. There were two methods of gold refining, chlorine and electrolytic, performed at the Royal Mint Refinery. Once gold had been weighed and moved to the foundry the second stage in the refining process took place. Following the preliminary melting of three or four bars together to establish an assay, the standard of fineness then determined the method used.⁷⁷ The chlorine method usually produced bars between 995 to 998 parts a thousand. This was achieved by melting the metal in oil-fired furnaces and blowing chlorine gas through it.⁷⁸ During this process the chlorine unit removed any base metal impurities, as well as any silver present, and formed chlorides. These were removed by skimming the surface, which left the pure gold behind. During the process vapours from the furnaces were directed through Lodge-Cottrell precipitators, where electrodes were energised to 100,000 volts.⁷⁹ This

⁷⁶ RAL, 148/29, Draft for *The Times*, 'Royal Mint Refinery Centenary', p. 3.

⁷⁷ RAL, 148/37/1, Memorandum 'Edmund de Rothschild, Gold Refining Methods', 1964.

⁷⁸ RAL, 148/29, Draft for *The Times*, 'Royal Mint Refinery Centenary', p. 3.

⁷⁹ Ibid.

created a powerful electrostatic field that trapped the chloride particles to the electrodes and enabled the valuable dust to be collected periodically from the plant.

Electrolysis formed the second element of the refining process. This component produced the richest gold fineness at 999.8 or 999.9 parts a thousand, used mainly in the jewellery trades. The process followed the same initial stage as the chlorine method. Cathodes, electrodes on which gold is deposited, are made of thin gold foil of the highest purity formed into corrugations to give it adequate stiffness. When exposed to the solution of gold chloride, and once the correct current was passed through, the gold was deposited on the cathodes. The texture of the deposit was similar to coarse brown crystals. These were then washed, dried, melted and cast into bars.⁸⁰ The bars were then sent to the assaying firm of Frederick Claudet, which was commissioned by the Royal Mint Refinery to establish the purity of the gold refined by the firm. The assay process involved a chip (equivalent to a 62nd part of an ounce of gold) being taken from every bar. The chip was wrapped and marked with the corresponding bar number and sent to Claudet's laboratory where it was flattened, filed down to the correct weight, melted in a furnace at 1000 degrees Celsius, flattened into ribbons, bathed three times in nitric acid and annealed in a blow flame.⁸¹ The process confirmed the purity of the gold and the loss of weight during the process was recorded. The assay report might be used at a later date as evidence of the purity of a bar should any disputes arise.⁸² Following the assay process chips were re-wrapped and returned to the refinery where they were collected until there was enough to make a new bar.

⁸⁰ Ibid.

⁸¹ RAL, 000/376/4, Refinery Press Book, 'Assaying £1,000,000 in gold every week', *Evening Standard*, n.d., 1932, p. 5.

⁸² Ibid.

Figure 6. 'RMR Refined Gold Bar, 1933'⁸³



Figure 7. 'RMR Loading Gold into van, 1933'⁸⁴



Michael Bonavia, a former employee at N M Rothschild & Sons (1931-1935), gave an account in *London Before I Forget* of gold being delivered from the Refinery to New Court:

The most interesting feature of that side of the courtyard was the Bullion Room. Day after day plain box-like motor vans with no distinguishing marks would back up to the door of this room and, entirely casually, a cargo of gold bars would be unloaded by passing from hand to hand. The bullion van resembled a small furniture removal van; the guard was merely one ex-

⁸³ RAL, 000/376/4, Royal Mint Refinery, 'Refined gold bar showing Royal Mint Refinery assay mark and unique serial number.' 1933; The image provides a close up view of the 'chop' and unique bar number; Prior to 1954 it had not been necessary to include a serial number for each bar. It is observed in records for the Royal Mint Refinery that this practice had been adopted at the refinery much earlier as a form of quality control practice. In 1967, following a raid on the refinery's bullion van whilst it made deliveries in London, the refinery stamp and unique serial numbers on each gold bar enabled police to identify the stolen gold, which lead to the arrests and prosecutions being made.

⁸⁴ RAL, 000/374/4, Royal Mint Refinery, 'Loading of Gold into Bullion Van for dispatch', 1933.

policeman in bowler hat and raincoat, looking on as the golden millions were transhipped. No armed guards, no men in uniform, no special protection for the vehicle. It was an age of confidence, not obsessed by security.⁸⁵

Bonavia may not have been aware of the additional security instigated at the refinery from January 1932. At a cost of £1 3s 1d per day, plus 5/-d a week for plain clothes allowance, the services of a Metropolitan police officer was engaged to be stationed at the refinery.⁸⁶ Security at other firms was stepped up following an incident in October 1933 when a box of gold, being transported through the streets of London bound for the offices of the Sheffield Smelting Company was stolen. The gold, valued at £10,000, was stolen in broad daylight. It was believed that the robbery was the first in a series of organised thefts of bullion, no subsequent arrests were made, no bullion recovered and the costs fell on the insurers.⁸⁷ Wilson observed that the incidents resulted in much ‘vexed and unwanted publicity.’⁸⁸

Today the 1933 images offer the researcher a point of entry for further investigation. Hardt and Brennen observed that the ‘photograph provides a rare opportunity to observe and interpret actual conditions of the past and, in light of our knowledge, confirms its usefulness as a historical document.’⁸⁹ The series is enhanced by the accompanying written account of operations at the Refinery published by *The Times*, together with White’s account and that of Ronald Palin, a former employee of the Rothschild Bank, in *Rothschild Relish*. Palin’s account, which spanned the 30 years of his employment at New Court, offers his reminiscences of the Refinery and of his former work colleagues. Life at New Court was compared

⁸⁵ Michael Bonavia, *London Before I Forget* (Privately Printed, 1990), pp. 117-8.

⁸⁶ RAL, 000/604/B, ‘Arrangements and Charges for special services of Police Officer Metropolitan Police Force’ 31 Dec 1931.

⁸⁷ Wilson, *Two Hundred Precious Metal Years*, p. 229.

⁸⁸ Ibid.

⁸⁹ Hanno Hardt, and Bonnie Brennen, (ed.) *Picturing the Past, Media, History & Photography* (Urbana, IL: University of Illinois Press, 1999), p. 30.

with belonging to the ‘best club in London’.⁹⁰ However, the type of clerical work undertaken in the merchant bank’s Bullion Department, located at New Court, and the manual labour of those employed at the Royal Mint Refinery were worlds apart. The secret world of the Refinery held some fascination for clerks engaged at New Court. Palin recalled that ‘of all the firm’s activities refining and dealing in gold and other precious metals were perhaps the most glamorous and interesting.’⁹¹ Behind the scenes more of the routine chores, dealing with paperwork, insurance and shipping of gold, were undertaken by Herbert Elton.⁹² Palin recalled that Elton ‘did get away sometimes from the world of paper and abstractions into the glittering presence of the metal itself and his great joy was to visit the Refinery’.⁹³ Part of the fascination for Elton was the French influence, which was retained well into the 1940s. Tales of the ‘Frenchies’ who made up the original workforce of the Royal Mint Refinery back in the mid-nineteenth century, were passed down through generations of Rothschild employees.

The early French character of the London refinery was attributed to the first workforce being recruited from an area of south Normandy in France. It was their skill in the metal industry that had attracted Michel Poisat, an associate of the Paris House of Rothschild and the first manager of the London refinery. Following a general recession in the south Normandy area from 1846 to 1851, and the deterioration of economic conditions coupled with bad harvests, the dislocated workforce had been recruited for London.⁹⁴ Here they assisted Poisat, whose task it was to install and train the new workforce in the secret art of refining of gold and

⁹⁰ Ronald Palin, *Rothschild Relish* (London: Cassell, 1970), p. 20.

⁹¹ *Ibid.*, p. 51.

⁹² *Ibid.*

⁹³ *Ibid.*

⁹⁴ RAL, 000/1242, ‘The French Connection’, p. 21.

silver bullion, on behalf of the Rothschild family. The lure to London for this early workforce was economic stability, the entitlement to a generous pension and subsidised accommodation located in buildings adjacent to the refinery.⁹⁵ Whilst working conditions were demanding, the remuneration on offer to the staff of the refinery was better than most employers. Further perks enjoyed by this early workforce included daily supplies of cider for French workers, beer for English workers, and for those that ‘done the drinking’ the deposit money payable on return of the casks was divided equally.⁹⁶ French workers enjoyed a month’s paid leave each year and once qualified many were entitled to a generous pension. Once retired some returned to France and built a house for themselves and family.⁹⁷ The flow of workers across the Channel continued until the early 1900s, with successive generations being engaged at the refinery well into the twentieth century.⁹⁸

In 1996 Spencer Richards, a former employee of the Refinery, made contact with a number of descendants of the workmen who had been engaged at the refinery, on upon retiring had returned to south Normandy. Robert Marois, a French researcher investigating the history of workers at Raphael, responded to an appeal by Richards and sent letters to pensioners living in the region who shared the surname of workers once at the refinery. Through the co-ordinated efforts of Marois and Richards a number of descendants were traced. Andre Michel who had lived at one of the worker’s flats in Royal Mint Street as a child, was the only person to have visited the Refinery. The daughter-in-law of Adolphe Amiard, a foreman at the Refinery in 1896, also came forward with information. Richards recorded that towards the end of

⁹⁵ Ibid.

⁹⁶ Ibid., p. 22.

⁹⁷ Ibid.

⁹⁸ Ibid.

the meeting Mme Amiard announced '*Ceux qui ne sont pas chez Rothschild sont des imbeciles!*' (Those who are not with Rothschild are idiots).⁹⁹

Additional information about the Refinery is provided by Patricia Sommer-Buess, the daughter of George Buess, the manager at the Refinery between 1912 and 1937. Buess highlighted the long association her own family had with the Rothschild family. Sommer-Buess identified a family connection to at least eight of the seventy-six workers employed at the refinery in 1905. The names of all the workers at the refinery surrounded the photograph taken on an outing to Eastbourne in 1905.¹⁰⁰ Tragically, her grandfather, Eugene Lois Antoine, died in an accident at the refinery in 1916. His daughter, Patricia's mother, married George Buess, who was first engaged as a clerk at the refinery in 1898, following a personal introduction by his aunt, who at the time was employed as a governess by the Rothschild family. In 1912 George was elevated to the position of refinery manager and remained in the position until his retirement in 1937. He was the only member of staff to hold a set of keys for the large safe at the refinery, which regularly held a million pounds worth of gold and silver bars awaiting transfer to the Bank of England. On the rare occasions he was unable to go to work his brother-in-law, Alfred Antoine, Clerk of Works at the Refinery, would call at the family home in Pinner and collect the keys to the safe and return them at the end of the day.¹⁰¹ During periods when security needed to be heightened, due to gangs of thieves operating in the area, detectives would be appointed to escort Buess on his way home through the narrow and dark alleys to Aldgate Station.¹⁰²

⁹⁹ Ibid.

¹⁰⁰ Patricia Sommer-Buess, *War Chums, Friends for life* (Privately Printed, 2008), pp. 295-304.

¹⁰¹ Ibid, p. 303.

¹⁰² Ibid., p. 301.

Figure 8. 'RMR Workforce 1905',¹⁰³



He was remunerated well in his position as manager. In 1916 he received an annual salary in excess of £1,000, plus a bonus of £300 at Christmas.¹⁰⁴ The bonus system was another perk for employees and was a form of profit share. Details of the bonus system operated were set out for employees in April 1913 and stated that ‘it is in the power of every individual workman to contribute towards an increase in profits of the Refinery.’¹⁰⁵ Suggestions offered to staff to enhance profits included punctuality, good workmanship, care of machinery and tools and ‘more especially by strict economy in the consumption of electricity, gas, water.’¹⁰⁶ Accordingly to the Partners it was ‘in the hands of the workmen themselves, individually and collectively, to affect the profits of the House, and at the same time to increase their own remuneration.’¹⁰⁷

¹⁰³ RAL, 000/441, 'Staff Outing, 1905'.

¹⁰⁴ Ibid., p. 302

¹⁰⁵ RAL, 1/127/1/230, 'Royal Mint Refinery notice to staff' (April 1913).

106 Ibid.

107 Ibid.

In 1935, in an attempt to increase the profitability of the firm, a proposal to upgrade the treatment plant at the Refinery was put together, which involved replacing the old chemical method of silver treatment to the new furnace refining method. The vacant basement at Royal Mint Street was selected as the best location to house the new equipment required for the upgrade. In addition to a new furnace and a set of rolling mills with annealing, slitting and blanking machines were also to be housed. Draft plans were produced in 1936 adapting the layout of the existing refinery and incorporating part of the site owned in Cartwright Street. The original frontage onto Royal Mint Street was also to be updated. The new layout of the refinery provided messing, changing and cooking facilities, rest rooms and other facilities. An analytical laboratory was included in the redevelopment. In the spirit of the original 1884 agreement a small number of flats for senior employees, were incorporated into the rebuild.¹⁰⁸ Work was completed in 1938 under the control of George Buess, until his retirement, and thereafter Arthur Kimpton.¹⁰⁹ The new rolling mills were installed on the second floor of the Royal Mint Refinery; the floor had to be strengthened to take the weight of the modern equipment. However, as war became a reality plans were soon afoot to move the newly installed equipment to the shadow factory at Tring. Victor Rothschild was charged with setting up and moving all but the gold refining operation away from Royal Mint Street to the recently converted factory formally the Old Silk Mill, part of the family estate at Tring (discussed in chapter 6).

¹⁰⁸ RAL 000/1242, 'The Royal Mint Refinery in the Twentieth Century', pp. 8-9.

¹⁰⁹ Ibid.

In conclusion operating a refinery presented a unique experience for N M Rothschild & Sons. It offered the merchant bank access to a highly lucrative industry, and a greater presence in financial areas of gold producing countries. It was thought that access to gold would enhance market confidence in the merchant bank and provided the firm with a global presence. Rothschild profited from the acquisition of the lease for the Royal Mint Refinery following the acceleration in gold sent to London for treatment. Further advances in gold production forced Rothschild to modernise and upgrade equipment at the refinery. However, rather than being innovative Rothschild followed the example of their close competitor Johnson Matthey & Company. Rothschild was able to purchase the freehold of the Royal Mint Refinery and surrounding properties, and later benefited from these acquisitions. The Refinery was extended outside the original footprint; the additional land purchase easily accommodated the enlarged venture when the need arose.

In 1852 Anthony de Rothschild had been fortunate that he was able to call upon his uncle James to assist with setting up the London refinery. The good reputation of the refinery was paramount. Workers were engaged for their specialist knowledge and technical expertise of the refining process. As other refining ventures became outdated Rothschild seized upon the opportunity to purchase and extend their own refining capabilities. The main hindrance to the venture was conflict. Business at the Refinery was severely curtailed during both the Boer War and the First World War. Partners at Rothschild took a keen interest in the refinery. Charles, and later his cousin Anthony, were both familiar with the daily operation and took a keen interest in the venture.

Literature about refining practices is sporadic. Whilst limited, the account presented by White of the daily operation and atmosphere of the refinery is valuable to understanding the business, especially when used in conjunction with photographs taken for *The Times* special editorial in 1933. Reports prepared for the refinery and notes on improved techniques, and details of the early workforce, albeit all contribute to an introductory understanding of the venture at a particular period in time.

Chapter 3

The legacy of World War 1, 1919-1924

This chapter considers the strain placed on business at the Royal Mint Refinery following the disruptions of the First World War. N M Rothschild & Sons was a global venture and was consequently reliant upon international co-operation between countries. In the immediate post-war period business had to be adjusted to contend with wider fundamental economic, political and social changes. The business was exposed to the enormous international economic dislocation, fragmentation of the old economic system, geopolitical changes across Europe; for example the 1917 revolution in Russian and the breaking up of the Ottoman Empire together with the increased importance of the New York financial market following the wartime rise in economic importance of the United States of the America.¹¹⁰ From 1918 Rothschild sought to re-establish itself in the international arena by boosting confidence in its financial position, despite increased competition that threatened lucrative areas of the banks activities. One of the traditional areas of Rothschild expertise that required adjustment during this period was gold.

The chapter first reviews Britain's pre-war and war-time relationship to gold, levels of production and market control will be presented. This will be followed by an overview of the pre-war and wartime treatment of gold at the Royal Mint

¹¹⁰ See, for a detailed account of the immediate aftermath of war, Derek H. Aldcroft, *From Versailles to Wall Street, 1919-1929* (London: Allen Lane, 1977); See, for a detailed account of Europe and the impact of the war, J. M. Roberts, *Europe 1880-1945* (London: Longman, third edition, 2001); See, for a brief overview of the British economic experience, Alan S. Milward, *Economic Effects of the World Wars on Britain* (London: Macmillan, 1984); C. P. Hill, *British Economic and Social History 1700-1982* (London: Edward Arnold Ltd., 1985); See, for an account of the financial impact of war on the City of London, William M. Clarke, *The City in the World Economy* (London: The Institute of Economic Affairs, 1965).

Refinery. Second, the announcement in 1919 that a native refinery, Rand Refinery Limited, would be established in South Africa reveals the lengths adopted at the Bank of England (the Bank), compelled to control the supply of gold in the post-war years of financial reconstruction. Rothschild was party to a number of the Bank's plans for market manipulation. The role played by Rothschild and the threat the new native refinery posed to the treatment of gold in London will be discussed. Finally the impact the opening of the new Rand Refinery had upon the Royal Mint Refinery will be considered.

From 1800 the framework of the London gold market had become a 'close corporation' with few players. With the rapid acceleration in world gold production levels from 1850 the market opened up to involve more participants but it remained tightly controlled. The Bank of England held a central position, surrounded by a number of well established players. As world circulation levels of newly mined gold increased many of the old restrictions that had once curtailed the outward movement of gold from certain countries ended. The surge in gold discoveries and new production methods increased the availability of gold and its free flow around the globe. Increased demand for gold was fuelled by the emergence of an international economic monetary system based upon this yellow metal. Controlling gold supplies became a profitable and desirable business prospect.

Van-Helton has suggested that London's position as the world's primary, and preferred, gold market was a reflection of the expertise and experience gathered in the City of London (the City) and was reinforced by four key links. First, London had

the only genuinely unrestricted market; it was free from 'gold premiums, central bank interventions and soon, nothing impeded the import and export of precious metals.'¹¹¹ Second, a consequence of the Bank Charter Act of 1844, London provided a guaranteed market and minimum purchase price for gold of £3 17s 9d an ounce.¹¹² Third, the City was the hub of the global patterns of trade and payment flows, with its myriad of financial institutions and other services it provided the Witwatersrand mines; insurance, brokerage, Stock Exchange, banking, refining facilities, recruitment of technical personnel, and the bill on London was an internationally acceptable means of payment. Moreover, in the City the majority of mining companies were incorporated as limited companies, raised working capital on the Stock Exchange, held their annual general meetings, head offices were located there and credit and overdraft facilities were arranged with banking capital against anticipated revenue from weekly gold sales.¹¹³ Finally, and more importantly for the fortunes of the Royal Mint Refinery, the Transvaal possessed no mint or refinery, and as such British banks and other African states and colonies would not recognise a Transvaal hallmark or coins minted in Pretoria.¹¹⁴ With a lack of treatment facility shipments of raw gold continued to be sent to refining houses in London. Between 1904 and 1910 imports of gold increased from £16.3 million to £34 million.¹¹⁵ The gold was treated by the three principal London refining houses, Johnson Matthey & Company, the Rothschild Royal Mint Refinery and H L Raphael & Sons (Raphael).¹¹⁶

¹¹¹ Jean Jacques Van Helton, 'Empire and High Finance: South Africa and the International Gold Standard 1890-1914' *Journal of African History*, 23 (1982), 529-548 (p. 539).

¹¹² Ibid.

¹¹³ Ibid.

¹¹⁴ Ibid.

¹¹⁵ Clapham, *The Bank of England*, p. 378.

¹¹⁶ From 1899 the Deutsche Bank and German refinery, the Deutsche Gold and Silberscheide Anstalt, in an attempt to steal business away offered African mining companies a considerable reduction on

In earlier times the London refining houses had found it necessary to compete against each other to secure the weekly consignments of raw gold that had been boxed up and transported first by coach, later by rail, to Cape Town and Durban, where it was dispatched by ship to London. Upon arrival the directors of the refineries had donned 'their frock coats and top hats and headed into the City each morning to call on the banks, brokers and shipping agents to compete for the incoming shipments.'¹¹⁷ However, by the turn of the twentieth century the flow of gold had increased so much as to fill the full capacity of the refineries and competition became meaningless.¹¹⁸ In 1906 Rothschild, Raphael and Johnson Matthey entered into a formal agreement that fixed the treatment price of gold in London. Under the terms of the agreement all gold entering London would be divided between the three firms in more or less equal portions and treated at a fixed cost of 3d an ounce.¹¹⁹ Gold treated at the Royal Mint Refinery increased from the 1905 level, 3.3 million ounces, to 6.8 million ounces in 1913.¹²⁰ Once treated the finished gold bars were offered for sale on a Monday morning in the London market by one of the approved brokers.¹²¹ In addition to refining costs, gold producers were also responsible for freight charges, insurance, and any brokerage fee charged for the sale of the consignment. Van Helten calculated that additional costs incurred could

shipping and refining costs. However, additional transport time meant any saving became negligible. (See Van-Helton, 'Empire and High Finance', p. 537).

¹¹⁷ McDonald, *The History of Johnson Matthey & Co* (1974), p. 104.

¹¹⁸ Ibid.

¹¹⁹ Ibid.

¹²⁰ RAL, 148/24/3, 'Treatment of Silver and gold 1905 to 1948'.

¹²¹ From 1850 the four bullion brokers accepted by the Bank of England were Mocatta & Goldsmid, Pixley & Abell, Samuel Montagu & Company, and Sharps and Wilkins.

be as much as 15 per cent, which meant that the standard price of an ounce of gold (£3 17s 9d) could be whittled down to around £3 10s.¹²²

By 1914 gold was the buttress of the international financial system, 59 countries were on a gold-exchange standard.¹²³ Bullock has observed that ‘by the [autumn] of 1914 the world had become gold-conscious’ remarking that ‘mankind prefers gold to any paper money, silver, or commodity money, that politicians manufacture.’¹²⁴ On the outbreak of war the international monetary system collapsed forcing countries to abandon gold as a monetary regulator and once more prompted restriction in the movement of gold. The demand for gold did not diminish for the instability of paper currency created a buoyant market for gold and the British Government were in the fortunate position at the outset of the war to be able to take immediate steps to secure full control over the gold production of the British Empire, which accounted for nearly 70 per cent of the total world gold supply.¹²⁵ The Bank of England took immediate action to protect Britain’s premier standing in the world economy as it entered into a special wartime agreement. On 14 August 1914 the Bank entered an agreement with the Union of South Africa’s Government, the South African Banks and the mining companies to purchase all gold produced in South Africa for a fixed rate of £13 17s 9d per standard ounce. In return for this exclusive deal, referred to as the August Agreement, producers received 97 per cent of the value of gold immediately with the remaining balance paid upon receipt of the gold in London.¹²⁶

¹²² Van Helten, ‘Empire and High Finance’, p. 538.

¹²³ Green, *The New World of Gold*, p. 22.

¹²⁴ C. J. Bullock, ‘Gold’, *Review of Economics and Statistics*, 16 (Jul 1934), 148-152 (p. 151).

¹²⁵ Whittlesey, ‘The Gold Dilemma’, p. 598.

¹²⁶ Russell Ally, ‘War and Gold – The Bank of England, the London Gold Market and South Africa’s Gold, 1914-1919’ *Journal of Southern African Studies*, 17 (Jun 1991), 221-238 (p. 227).

Russell Ally has argued that the Bank had effectively commandeered the South African gold because rather than being the voluntary agreement the authorities later insisted it had been, the Union government, bankers and mining companies had no real alternative but to agree to it.¹²⁷ Even so Ally conceded that when it became too dangerous for weekly shipments of gold to continue, the advance payment was in essence an interest free loan, which saved the South African economy from certain ruin.¹²⁸ Nevertheless the August Agreement was a contentious issue, which generated resentment amongst many of the South Africa gold producers and was a cause for the renewed calls for a native gold refinery in South Africa. For Britain the agreement meant it secured a steady supply of gold from South Africa during the period of conflict, which provided the necessary purchasing power for arms from the United States, despite much of the gold mined remaining in South Africa and being held on account. A decision taken to protect the gold from falling into enemy hands as the risk from U-boat attack upon shipping heightened, which disrupted marine transportation links. In addition, during the period of conflict, world gold production levels fluctuated, a consequence of the shortage of manpower following the diversion of workers into both the forces and the production of munitions; in South Africa a record high of just over 23.5 million ounces of newly mined gold was recorded in 1915 the figure was not bettered until 1932.¹²⁹

The legacy of war had taught the British government that gold was a commodity that needed to be tightly controlled. When the conflict ended in 1918 it left its mark on the international economy fracturing links once made by gold. Derek Aldcroft

¹²⁷ Ibid., p. 228.

¹²⁸ Ibid., p. 229.

¹²⁹ Whittlesey, 'The Gold Dilemma', p. 581.

observed that ‘a war on a scale larger than any before conceived possible could not fail to leave its mark on the economic and social life of the world economy.’¹³⁰

Whilst no official restrictions were imposed immediately by Britain for the ownership of gold, unlike the United States, which upon entering the war in 1917 banned the export of gold from its shores; this was possibly out of protectionism of its existing gold reserves and also as a reaction to the inert gold production in America since 1905.¹³¹ In contrast to Britain, the American stock of gold had dramatically increased over the previous four years and the vaults of the Federal Reserve, in its role as regulator of the economy and banker to the US government, held over 415 million ounces of gold, in addition to Treasury holdings were calculated in excess of 475 million ounces.¹³² In Britain much of the monetary gold had been removed from everyday circulation and replaced by notes. As the war ended the depleted stocks of British gold needed to be replenished. Ally suggests that the Bank could no longer rely upon traditional relations and had to find new methods to ‘control and manipulate the international’ supply as it attempted to bolster international confidence in the London financial market.¹³³

One method initiated by the Bank of England, in an attempt to stop gold gravitating towards markets in New York was to enter a new agreement with the representatives of the South African gold mining companies. In return they could expect to receive the highest price obtainable for their gold at the point of sale. The 1919 ‘July Agreement’, as it was referred to, acted as a guarantee that ensured gold would be shipped to London for sale. Unlike the wartime August Agreement, under

¹³⁰ Derek Aldcroft, *From Versailles to Wall Street*, p. 11.

¹³¹ Barry Eichengreen and Ian W. McLean, ‘The supply of gold under the pre-1914 gold standard’ *Economic History Review*, 47(1994), 288-309 (p. 295).

¹³² Samuel Montagu & Co. Ltd., *Annual Bullion Review*, 1919, p. 6.

¹³³ Ally, ‘War and Gold’, p. 230.

the new July Agreement the Bank became a receiving depot for gold, and the producers remained free to sell at the market price. Upon receipt of the gold the Bank made an advance payment to the producers bank equal to 77s per standard ounce of raw gold, which was later repaid at a special rate of interest from the proceeds of the sale of gold; the Bank made no charge for its services and purchased gold at 77s 9d per standard ounce. Subject to a six month cancellation notice either side had the option to cancel the agreement, which formed the basis for the daily gold fix in London.

Rachel Harvey in her study of the Gold Fixing in London suggested that the July Agreement reclaimed and secured London's supremacy in the international financial arena. It provided a thoroughfare, or clearing house for gold. Harvey detailed an in-depth account of the development and infrastructure of the post-war gold market that emerged in London. N M Rothschild & Sons played a significant role in the reconfiguration of the gold market. The Bank appointed Rothschild as its agent, due to the pivotal role played by the firm as banker, refiner and existing agent for many of the South African gold producers that stood the firm in good stead. As agent for the Bank Rothschild's own position to gold was reinforced and the firm assumed an administrative control over all gold entering London.¹³⁴ Gold was sold through Rothschild to the London bullion brokers. The terms of the agreement stated that:

All fine gold available on any day will be delivered by the refiners to Rothschild. Rothschild decided at 11 o'clock each morning, having regard to the various exchanges, what was the best sterling price which could be obtained... the brokers were given the opportunity of bidding and would obtain their requirements if the price they bid equally or exceeded the realisation price fixed by Rothschild.¹³⁵

¹³⁴ Rachel Harvey, 'Duty to Firm and Market: The Subnational and Sociocultural Constitution of the London Gold Fixing' (unpublished doctoral thesis, University of Chicago, 2008), pp. 38-9.

¹³⁵ Ibid., p. 75.

The first Gold Fixing in London took place on 12 September and the price was fixed at £4 18s 9d per ounce.¹³⁶ However, despite acceptance by the South African gold producers of the July Agreement a degree of bitterness remained as their gold remained tied to London.

The Royal Mint Refinery emerged from the conflict in a strong position, regardless of the significantly reduced levels of gold imported into London during the years of war records showed that 17.5 million ounces of gold was treated.¹³⁷ Rothschild sought to return quickly to the pre-war operating practice when it had received regular batches of unrefined gold mainly from the Cape. The turning point came in 1919 when shipments of gold flowed to London and it soon returned to its pre-war speciality of bulk refining, processing large quantities of bullion for governments, banks, gold producers and bullion brokers.¹³⁸ By the end of 1919 the Refinery had treated nearly 10,500 million ounces of gold.¹³⁹ The Refinery benefitted from the new treatment method introduced by Charles de Rothschild in 1912. The Lodge-Cottrell equipment brought a number of operational benefits; increased refining capabilities, shorter processing time, and prove more cost effective. Overall the operation would benefit from a lower loss of gold particles, which in turn reduced overheads and the general costs of refining. In 1919 the Rothschild refinery was well placed to cope with the increased demands the backlog of gold presented.

¹³⁶ Green, *The Ages of Gold*, p. 355.

¹³⁷ Ibid.

¹³⁸ *The Times*, 'Gold', p. 168; The Royal Mint Refinery was also engaged in refining quantities of silver and other precious metals.

¹³⁹ RAL, 148/24/3, 'RMR Silver and Gold Treated from 1 Jan 1905 - 31 Dec 1948'.

By 1919 Johnson Matthey had embraced the technological advance in metallurgy, which had been advanced through the development and production of war-time munitions at its factory. In the immediate post-war the firm seized upon the new opportunities the advance presented and increased its activities. It expanded the scope of its refining capabilities and added the treatment of platinum and light engineering, including rolled and liquid gold, to its portfolio. The operational change set them apart from Rothschild, projecting them forward in the post-war era better prepared and able to offer specialist services to industry. Unfortunately the Raphael refinery, despite extending the scope of its war-time production capabilities, failed to realign its business after the war and became a victim of financial difficulties in the turbulent economic climate.¹⁴⁰ The small void left by Raphael's departure was filled by the Sheffield Smelting Company.¹⁴¹

Johnson Matthey's post-war expansion went beyond British shores. The firm proposed a merger with the Sheffield Smelting Company and one of the biggest gold and silver houses in America, Handy and Harman, with a view to form an international smelters and refiners.¹⁴² The move would have created one of the most influential and precious metal businesses in the world. Board members at the Sheffield Smelting Company rejected the offer, despite the firm being in a dire economic position. Nothing came of the intended merger. Ronald Wilson, in his history of the Sheffield Smelting Company, considered that Johnson Matthey were

¹⁴⁰ In 1919 Raphael's took the decision to switch from the treatment of gold to the production of car components. Unfortunately the attempt to diversify failed and the firm ceased to trade from 1926 (Stanley D. Chapman, *Raphael Bicentenary, 1787-1987* (London: Raphael Zorn, 1987), p. 28).

¹⁴¹ The Sheffield Smelting Company was established in 1760 and primarily traded in sweeps and smelting of silver. The Company not only had premises in Sheffield but also in Clerkenwell, close to the City of London, and Birmingham.

¹⁴² Talks between the two companies continued throughout 1920 to 1923 when the plan was finally abandoned. The decision was taken due to problems of double taxation of joint companies together with amount of compensation to existing American shareholders that Johnson Matthey would become liable for.

‘uninhibited by a policy of standing still.’¹⁴³ Wilson suggested that Rothschild and the Sheffield Smelting Company had a close working relationship. It was certainly close enough for Rothschild to offer financial support once it learnt of the financial problems the firm faced.¹⁴⁴ Despite the offer the crisis eased and business increased. All three firms maintained a good working relationship mainly because each had its own sphere of expertise and as such generally avoided any direct competition.

The main challenge for the London refining houses came directly from plans put forward in 1918 by the Chamber of Mines (the Chamber) to establish a native refinery in South Africa. The Chamber founded in 1889 was made up of representatives from the principal South African mining community. Its function was to provide a platform for greater co-operation between the growing forces it represented the interests of its members, and promote the development of the industry.¹⁴⁵ Support for the Refinery had gathered pace during the conflict when the production of gold from the empire, and the maintenance of a steady supply were described as being ‘of the greatest imperial importance’ to the British Government.¹⁴⁶ The contribution this made to the war effort was acknowledged by the gold producers, who were fully aware that supplies presented Britain with an economic advantage over other financial markets.

Evelyn Wallers, President of the Chamber of Mines 1914, 1916-19 and 1924, had frequently raised concerns during the conflict over access to a steady supply of gold

¹⁴³ Wilson, *Two Hundred Precious Metal Years*, p. 207.

¹⁴⁴ Ibid., pp. 217-8.

¹⁴⁵ Weston, *Gold*, p.144.

¹⁴⁶ The National Archives, Kew, (Hereafter TNA), CAB/24/146, ‘Western and General Report’, (18 Apr 1917).

for the British Government.¹⁴⁷ He feared that falling production levels, escalating extraction costs and increased overheads might render many of the lower grade mines in South Africa operationally unviable.¹⁴⁸ He noted that the Bank of England had not helped the situation by maintaining the same fixed price of gold since 1914, and had failed to review the price. Despite appeals and Wallers' general anxieties being known, in addition to events being reported in confidential government reports, no action was taken to redress the situation by the British Government.¹⁴⁹ British control of empire gold was tested in 1918 when a number of gold producers from South Africa attempted to ship and sell consignments of gold in the New York market. The shipment was stopped and an announced made that the act was considered 'unpatriotic'.¹⁵⁰ The significance of such a move is not be underestimated and should be viewed as a direct challenge to British authority.

In September 1918 at a meeting of the Chamber of Mines the main topic on the agenda was the Transvaal gold situation, which was reported as having become 'serious'. Wallers informed members that out of 49 contributing companies, just under half were reportedly making losses and he feared that the end was in sight for many of these mines. He suggested that 'it would be a pity if the actual closing down of some mines was required to bring home the real position.'¹⁵¹ A post-war industry review to find savings in gold production advocated that overheads could be cut if a native refinery were established closer to the source of production.¹⁵² London, however, continued to do nothing. Russell Ally, in his research into war-time Anglo-African relations, highlighted the rising tension and mounting pressure on the Bank

¹⁴⁷ Maryna Fraser and Alan Jeeves, *All that Glittered. Selected correspondence of Lionel Phillips, 1890-1924* (Cape Town: Oxford University Press, 1977), p. 390.

¹⁴⁸ TNA, CAB/24/152, 'Western and General Report', No.88 (Oct 1918).

¹⁴⁹ TNA, CAB/24/152, 'Western and General Report', No.70 (May 1918).

¹⁵⁰ Ally, 'War and Gold', p. 230.

¹⁵¹ TNA, CAB/24/152 'Western and General Report', No.88 (Oct 1918).

¹⁵² Fraser & Jeeves, *All that Glittered*, p. 361.

of England to control gold output, which was crucial in safeguarding Britain's position in the world economy, and any alteration to this relationship would have affected Britain's economic standing.¹⁵³ Therefore, perhaps the reluctance of the British authorities to intervene or instigate changes was merely an attempt to maintain the existing *status quo* for as long as possible.

The establishment of a native refinery was advocated by the Union Government and advanced by leading mining officials. Samuel Evans, Chairman of the Crown Mines Company 1909-35, advanced the nationalist argument. He actively campaigned for greater autonomy for the mining industry in South Africa. Evans argued that when in 1910 when the Union of South Africa had received dominion status the gold producers should have been placed in the 'same favourable position as the gold producers in Australia and Canada.'¹⁵⁴ Evans observed that the producers of both countries had retained control over native gold and had no restrictions imposed on the markets in gold could be sold in.¹⁵⁵ Support for the present campaign increased following the temporary establishment of a refinery and Mint in Bombay in 1917, which had aggrieved a great number of producers in Africa.

Evan's campaign promoted the collective dissatisfaction felt by producers at having to continue to send gold for treatment to London, a move considered no longer beneficial as it was detrimental to profits and restricted the markets in which

¹⁵³ Ally, 'War and Gold', p. 232.

¹⁵⁴ RAL, XI/111/152, Report produced by Samuel Evans, representative of Crown Mines Company, 'Disposal of South African gold', 5 Oct 1918.

¹⁵⁵ Ibid.

their produce could be sold on this basis the following offer was made to the British Government:

The Chamber will advance to the Government as and when required, the amount necessary to erect and fully equip on a suitable site on the Witwatersrand, preferably on the railway, a Refinery and Mint sufficiently large to deal with the whole annual output of British South Africa, including Rhodesia, say up to 12,000,000ozs of bullion per annum.¹⁵⁶

A number of additional provisos were put forward; the right to tender for the minting of other governments' coins; and no restrictions on the exportation of the output of gold.¹⁵⁷ Evans anticipated the news would not be greeted well by the London refiners and commented that 'the proposals to refine and mint in South Africa [were] bound to meet with the strongest opposition from them as well as from the Bank of England' he concluded that 'as far as I can see they have no argument beyond an appeal to prejudice.'¹⁵⁸ The final part of the report addressed the future distribution of gold. India, Egypt, the Far-East and South America were pinpointed as target export markets, with direct shipping rather than sending gold via London.¹⁵⁹ The report laid out economic savings on offer for the South African gold industry.

News of the new Refinery first appeared in the British press in April 1919. It was reported in *The Times* that the Union Government had plans to pass legislation to treat gold in South Africa, instead of sending it to London.¹⁶⁰ Further reports that appeared in *The Times* suggested the rapid and successful war-time development of South African industries had 'conjured up the vision in the minds of certain people

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

¹⁵⁹ Ibid.

¹⁶⁰ *The Times*, 26 Apr 1919.

that South Africa [was] destined to greatness as a monetary centre.¹⁶¹ Despite plans still being in their infancy, it was quickly announced that the new refinery would save the gold industry in the region of between £300,000 and £400,000 each year.¹⁶² By July operational issues had been resolved and the location of the mint and refinery was to be erected at Germiston, south of Pretoria, which was favoured over Johannesburg due to the location of the garrison that would provide additional protection. It was also felt that the central gold reserve should be situated in the Union capital.¹⁶³

In London, Johnson Matthey and Rothschild joined forces sharing information about the unfolding developments for the planned new refinery. Representatives from both firms approached Governor Cokayne at the Bank of England for regular updates. However, it was suggested by Cokayne that the present situation was a consequence of the earlier failure by both Rothschild and Johnson Matthey to pass on the earlier savings, after the upgrade in machinery in the pre-war period when treatment costs to gold producers who felt aggrieved at being overcharged.¹⁶⁴ In response both firms reviewed the treatment costs and a reduction of 1d per ounce of gold was made. George Buess observed that the Governor seemed pleased that Rothschild had taken steps to reduce costs. However, it was noted that he was of the opinion that ‘the matter had now gone so far that nothing would prevent the producers from establishing a refinery in South Africa.’¹⁶⁵ When pushed further by Rothschild as to whether the Royal Mint Refinery had a future, Governor Cokayne was unable to

¹⁶¹ *The Times*, 1 May 1919.

¹⁶² *Ibid.*

¹⁶³ TNA, CAB/24/153, ‘British Empire and Africa Report’ (2 Jul 1919), pp. 5-6.

¹⁶⁴ *Ibid.*

¹⁶⁵ RAL, 111/153, ‘Proposed Reduction in Refining Charges’, 13 Jun 1919.

provide any real guidance, although he suggested that ‘if he were in the position of the owners of that institution he would certainly not close it.’¹⁶⁶

Sir Lionel Phillips, London representative of the Central Mining & Investment Corporation Ltd., was more forthcoming regarding developments overseas and kept Rothschild and Johnson Matthey informed. He urged both London refiners to work with the gold producers. Johnson Matthey was keen to offer assistance and establish a refinery in South Africa.¹⁶⁷ Johnson Matthey encouraged Rothschild to join them in the overseas venture. However, Rothschild had already reviewed its options and had made the decision that ‘there was no advantage in helping the South Africans to cut our own throats and that New Court could on no account join in establishing or running a refinery at that distance from London.’¹⁶⁸ In the meantime another threat was looming as plans were forming at the Bank of England to establish and operate a new refinery in London.

Early in 1919 plans were conceived at the Bank of England to establish and operate a new London refinery in a bid to foster greater control over the London gold market. The Bank was keen to strengthen relations with the South African gold producers ahead of the completion of the new Rand Refinery. It was reported that the ‘Crown [was] anxious for the Bank’s to undertake this business.’¹⁶⁹ Governor Cokayne informed Johnson Matthey and Rothschild of the Bank’s plans and

¹⁶⁶ Ibid.

¹⁶⁷ RAL, 111/152, ‘Johnson, Matthey Letter to Sir Lionel Phillips’, 21 Jun 1919.

¹⁶⁸ RAL, 111/152, ‘Refinery in South Africa –Proposed Establishment’, 23 Jun 1919.

¹⁶⁹ Bank of England Archive (hereafter BEA), C40/305, Gold St Luke’s Refinery, ‘Freshfields Solicitors to Bank of England’, 23 Jan 1919.

observed that it was not ‘intended to be hostile to the existing refiners’.¹⁷⁰ Both firms received a summons to attend the Bank and were quizzed about the daily operations, price structure and treatment methods favoured. However, rather than use their refining expertise as consultants for the new build the Governor turned to Sir Thomas Kirke Rose, chemist and assayer at the Royal Mint, Tower Hill, and Sir John Cawston, Royal Mint, Ottawa (later Deputy Master Royal Mint, Tower Hill) to make the project a reality. Once the Bank had established that it was not beyond its powers, or prohibited under the Bank Charter of 1844, the chlorine system of refining was agreed upon and the St Luke’s Refinery was established. Keen to press on with the project by mid March building work was underway. The key principal in construction was that economy be paramount. St Luke’s Refinery was to be established on land already owned by the Bank in Baldwin Street, close to the City. Before building work began the site had to be cleared, which proved no mean feat as at the time it accommodated 300 persons. Financial inducement, assistance with removal costs to properties in close proximity and the lure of lower rents enabled the Bank’s agent, Mr Goodman, to successfully clear the site.¹⁷¹

Construction costs, including the freehold of the site, amounted to £100,000 and an additional £18,000 was spent equipping the refinery. It was agreed that R Pearson, an employee of the Royal Mint in Ottawa, for a modest increase in his salary would be seconded to the Bank to manage the new St Luke’s Refinery for a year. Pearson, an experienced refiner had worked at the Royal Mint in Australia and had assisted

¹⁷⁰ RAL, XI/111/152, Notes of meeting Governor of the Bank, Messrs. Johnson Matthey and Charles Rothschild, 29 Apr 1919.

¹⁷¹ BEA, C40/305, Meeting, 15 Mar 1919.

with the installation of the new refinery at the Royal Mint in Ottawa in 1916.¹⁷²

Slightly later than anticipated the first batch of gold was delivered and treated at St Luke's Refinery on Monday 15 November 1920.¹⁷³ Astonishingly the Bank announced that the Refinery was prepared to 'refine at cost' in order to retain business in London.¹⁷⁴ A risky strategy designed to attract gold to the new facility, but more to the point it address the long standing complaint of the gold producers of the high treatment charges in London.

In 1922 operations at the Rand Refinery began. It was a foregone conclusion that once the new South African refinery was fully operational the quantity of gold requiring treatment in London would diminish. The Rand Refinery became the largest refinery of its kind in the world, with the capacity to treat over half the world's output of gold.¹⁷⁵ Earlier fears became a reality and gold was diverted away from London to the new treatment facility. The future outlook of the gold refining industry in London was bleak. One of the first casualties was the St Luke's Refinery as it became increasingly difficult to attract raw gold to the new London facility.¹⁷⁶ It limped along until March 1923 before it finally closed, having produced only 51,000 gold bars.¹⁷⁷ A cable was sent to Pearson, by then working at the Royal Mint in Pretoria, that the 'Bank desires to liquidate Refinery. Is any machinery or equipment wanted in South Africa.'¹⁷⁸ Johnson Matthey and Rothschild were unable to fend off

¹⁷² Ibid., 'Cawston, Royal Mint to Cokayne, Bank of England' 28 Feb 1919.

¹⁷³ Green, *The London Good Deliver List*, p. 30

¹⁷⁴ Ibid.

¹⁷⁵ Brochure 'The Gold of the Rand. A Great National Industry' prepared and circulated by the Transvaal Chamber of Mines (Johannesburg, 1927), pp. 123-5.

¹⁷⁶ The Royal Mint, Tower Hill declined an offer for the St Luke's Refinery to undertake all its melting at cost.

¹⁷⁷ Green, *The London Good Deliver List*, p. 30.

¹⁷⁸ BEA, C40/305, Telegram 'Chief Cashier, Bank of England, to Pearson, via South African Reserve Bank Pretoria', 28 Mar 1923.

competition from the new Rand Refinery and lost the market dominance they had enjoyed since the middle of the nineteenth century. Faced with the prospect of no gold to treat Johnson Matthey suspended its gold operation, deciding to concentrate on the treatment of platinum.¹⁷⁹ Much of the equipment was dismantled and offered to the Chamber of Mines.¹⁸⁰ Rothschild continued to treat parcels of gold, although greatly reduced in size, which arrived in London. The operation increased its treatment of silver and also diversified into the treatment of copper foil and other metals.

One of the strengths of the London financial market had been the unrestrictive movement of gold. As such any restrictions to the free movement of gold would hinder Britain's post-war recovery. In 1920 a disturbing trend emerged as gold imported into Britain no longer balanced the large outflows of the metal leaving the shores.¹⁸¹ Paul Einzig, the economic historian, calculated that in 1920 there was a deficit between imports and exports levels of just below £42 million.¹⁸² Concerns were vented over the large outward movement of gold from Britain, a topic that dominated the period due to the prevailing desire for the British economy to return to the gold standard. Rothschild and Johnson Matthey both acted as consultants to Montagu Norman, Governor of the Bank of England from 1920 to 1944, who sought their advice over the matter.

¹⁷⁹ McDonald, *The History of Johnson Matthey*, p. 60.

¹⁸⁰ BEA, C40/305, Telegram 'Pearson to Governor Norman', 8 Oct 1923.

¹⁸¹ Einzig, *International Gold Movements*, pp. 111-2.

¹⁸² Ibid.

Norman consulted both firms over his plans to restrict the movement of bullion and they assisted with the drawing up of the preliminary paper which resulted in the eventual implementation of the Gold and Silver (Export Control) Act 1920. The Act was an attempt to tighten controls over the import and export of bullion, and control the melting of coin by licence only. The new legislation received fierce opposition in the both the House of Commons and House of Lords. The main objections were directed towards possible adverse effects, as rather than the desired free movement of gold it was feared that the implementation of such restrictions would be detrimental:

To put a permanent prohibition on the matter of export, you naturally prohibit the import, because nobody is going to send gold they produce to this country for sale if they know perfectly well that on arrival in this country that gold is going to be seized by the Government ... They lose all control of it. Only certain people under certain conditions will be allowed to export it. The consequence will be that you will stop the inflow of gold into this country the moment the producers of gold know that they or anybody else are not to be allowed a free market in the commodity.¹⁸³

It was not in the interests of either Rothschild or the London bullion market in general for gold exports to be limited by such legislation. However, Rothschild was appointed licence controller by the Bank of England and thus implemented the distribution of licences on the bank's behalf. Norman had full confidence in the ability of the Rothschild bank and held them in high esteem. He said that 'the more I hear about the business the more convinced I am of the desirability of arranging that all gold exported under such Licences shall be shipped either by yourselves or by the Bank of England.'¹⁸⁴ Nevertheless, export levels subsided only to improve again by 1924 to just below £14 million. It is debateable if there was a direct correlation between the downturn of export levels and the implementation of legislation

¹⁸³ HC Deb 29 Nov 1920 vol 135 cc. 1042-67.

¹⁸⁴ RAL, XI/111/154, 'Letter from Montagu Norman to N M Rothschild', 5 Oct 1920.

alone.¹⁸⁵ However, for Rothschild the Act reinforced its relationship with the Bank of England and provided the opportunity for them to exert their control over gold and the import and export of a much sought after commodity. Rothschild used their knowledge of and influence over the London bullion market to secure a coveted working relationship with the Bank of England and used the notoriety afforded to entice business from across the Atlantic to New Court.

Throughout the 1920s Rothschild continued to build on the firm's connection to gold whilst strengthening its international position. Representatives of Rothschild frequently travelled to the United States to promote foreign exchange business. In reports back to London it was Rothschild's consistent connection to gold, through the shipments it arranged to Kuhn, Loeb & Co. in New York, that 'excited the envy of the whole banking world.'¹⁸⁶ This was important for Rothschild because formal advertising was not in the normal remit of a merchant bank. Cowles observed that 'in those days it was considered inexpressibly vulgar for a merchant bank to solicit new business, even to advertise.'¹⁸⁷ She noted that it was an unwritten rule that Rothschild scrupulously observed.¹⁸⁸ The general Rothschild philosophy was that potential clients 'know where we live... if they want to do business with us let them come and talk to us.'¹⁸⁹ During the inter-war period international promotion of Rothschild fell to Samuel Stephany, general manager at the merchant bank. Stephany overseas on the firm's behalf and in the 1920s was a regular visitor to the United States. His remit was to promote and increase the foreign exchange business for the

¹⁸⁵ Einzig, *International Gold Movements*, pp. 111-2.

¹⁸⁶ RAL, XI/111/119, Correspondence 'Stephany to N M Rothschild', 25-28 Dec 1920

¹⁸⁷ Virginia Cowles, *The Rothschilds, A family of fortune* (New York: Crawley Features, 1973). p. 220.

¹⁸⁸ Ibid.

¹⁸⁹ Palin, *Rothschild Relish*, p. 187.

bank. In his regular reports to Rothschild, Stephany inform the London office that disappointingly level of interest in the foreign exchange side were low but it was Rothschild connection to gold shipments that generated the most interest. In one report he wrote that:

Every shipment is the subject of 2 newspaper paragraphs, once when it is dispatched and again when it arrives. Our gold is as you know, practically the only business done for private account, all other arrivals here being for the British and French Governments and the United States Federal Reserve Bank. The New York Banks are anxious to participate in the publicity obtained from these Gold importations and in every case I have been confronted with a request to share the gold business in return for business given by the Banks to us.¹⁹⁰

Stephany received numerous enquiries from American brokers seeking access to gold shipments. He sought the advice of the London office as he felt unable to take further action to accommodate the requests, as he did not wish to unbalance the bank's existing relations with Kuhn, Leob & Co. Stephany believed it would be difficult to obtain any additional business but passed details on to New Court of various New York financial houses that were all 'very anxious to obtain part of the gold shipments.'¹⁹¹ Rothschild were in a pivotal position as the owners of a major refinery, agents for and intermediary between the South African gold producers and the Bank of England affording them special privileges over competitors. Clearly the Royal Mint Refinery was a valuable asset in the overall business portfolio of N M Rothschild & Sons, for it reinforced its relationship to gold and increased opportunities and access to other markets.

The profitability of the Royal Mint Refinery at the beginning of the 1920s increased. Company accounts reveal that both Charles and Anthony, received

¹⁹⁰ RAL, XI/111/119, Correspondence 'Stephany to N M Rothschild', 25-28 Dec 1920.

¹⁹¹ Ibid.

£15,000 each from the venture in 1920.¹⁹² Under the bonus scheme that operated at the Refinery workmen also benefited. In 1920 the total bonuses paid out amounted to £2,225; this reflected a percentage of the annual profit, and was distributed according to length of service and wage level per worker¹⁹³ The number of regular staff employed at the Royal Mint Refinery fluctuated between 100 and 130 men.¹⁹⁴ Due to the nature of the work, few women held permanent positions at the refinery. However, wives of refinery workers stepped in to assist with busy periods and weighed and wrapped gold bars. Temporary staffs were engaged when the volume of work dictated. During one busy period Elton, who worked in the bullion office at New Court, organised a gang of casual workers from the docks to unload gold and silver. Palin recalled that ‘the refinery was kept busy when the Chinese Government decided to encash their vast stocks of silver sycee and Maria Theresa dollars... as it arrived at London Docks it was transported to the Refinery in huge articulated meat lorries.’¹⁹⁵ Lorries queued outside the refinery gates packed with sycee (Chinese silver ingots).¹⁹⁶ To clear the metal staff worked three eight-hour shifts a day, seven days a week.

Wages and bonus payments fluctuated. The annual wage bill at the Refinery for 1919 was in the region of £34,500 and had decreased to around £24,500 by 1923. Figures expressed in Table 3, demonstrate the variation in profits made at the Refinery. Whilst company profits fluctuated they do not drop proportionately, despite the significant reduction in treating gold, any loss appears to have been compensated for by the increased levels of silver requiring treatment. Partners drew

¹⁹² RAL, V11/90/1, ‘Bullion Special Book’, 31 Dec 1919, p. 175.

¹⁹³ Ibid.

¹⁹⁴ RAL, 000/147, ‘Nominal List of Employees 1917’.

¹⁹⁵ Palin, *Rothschild Relish*, pp. 52-3.

¹⁹⁶ Ibid.

equal salaries from the business and these fluctuated and were linked to the performance of the venture. Wages for the two groups of workers at the Refinery, English and French, declined between 1920 and 1924 and although bonuses continued to be paid they were not fixed and decreased overtime. Table 3. does not reveal the number of employees per year and whether these altered. If numbers had reduced it would have been through natural wastage, retirement, rather forced redundancies. From 1922 the rapid hike in expenditure for utilities gave great concern and workers were told to keep refinery costs to a minimum. Unfortunately there are no later records that might over a comparison to be made. In 1923 the overall management of the refinery passed to Anthony, on the death of Charles.

Table 3. 'RMR Profit 1920 to 1923'

Bullion Private Journal entry	1920	1921	1922	1923
End of Year Profit	£34,690	£43,203	£39,348	£45,629
Anthony de Rothschild	£15,000	£20,000	£15,000	£17,000
Charles de Rothschild	£15,000	£20,000	£15,000	£17,000
Bonus paid to staff	£2,275	£1,845	£2,205	£2,430
English Workmen Wages	£27,375	£27,268	£26,680	£20,985
French Workmen Wages	£7,146	£6,420	£5,391	£3,572
Gold treated at RMR (gross weight ozs)	7,888,525	5,473,640	2,530,719	1,642,061
Silver treated at RMR (gross weight ozs)	22,687,327	31,457,316	42,621,684	44,456,854
Utilities (Gas/Electric/Water)	£10,439	£11,418	£33,688	£24,557
Coal and Coke	£8,249	£9,273	£6,809	-

Source: RAL, V11/90/1, Bullion Private Journal and 148/24/3- RMR Silver and Gold Treated – figures rounded to nearest £.

In conclusion, control of South African gold was considered paramount to Britain's economic recovery in the immediate post-war period by the Government and the Bank of England. The fear was that any loss of British control would advance the post-war position of the New York financial market. The Bank of England

manipulated market forces in order to retain control over new gold production from South Africa. For its part N M Rothschild & Sons, through its association with the bullion trade, was well placed to secure a prominent position and assisted the British authorities to secure shipments of gold to London. Appointed agents to the Bank, the relationship of the merchant bank to the financial markets was strengthened. The close relationship with producers and the ability to utilise the existing network of reliable contacts helped to make this possible. Trust and reliability were key factors in Rothschild success. These also featured in the relationship between the merchant bank and successive Governors of the Bank of England, Cokayne and Norman. Rothschild was able to secure a place at the centre of the London bullion market and through their control of gold reinforce their international standing.

In 1919 the biggest challenge to Rothschild came in the form of the Rand Refinery. The Bank of England rather than ease the burden added to that of the London refiners and established St Luke's Refinery in direct competition. Once the Rand Refinery became fully operational the venture failed. Johnson Matthey mothballed its gold treatment plant and Rothschild diversified into other profitable areas of operation.

The Royal Mint Refinery continued to be a viable and profitable concern in the Rothschild portfolio. Rothschild strategy, to make a small amount at each stage of production, suggests that the Refinery was only one of the activities the merchant bank complimented the other profitable activities; these included mineral exploration, mining ventures, transit insurance, refining, broking and foreign

investments. Profits generated by the Refinery in no way compared with those on offer in some of the deals the merchant bank was involved with. However the Refining operation provided a handsome profit for Partners and workmen. The refinery provided a steady regular income for its workforce and offered a secure pension upon retirement. Generally the men that entered the employ of the Refinery clocked up impressive numbers of years working there, in some cases this extending to over 40 years. The management of the refinery during the 1920s fell onto the shoulders of Buess. The partners were happy to leave the daily running of the operation to him. The Rothschild partners did maintain a keen interest in the operation. The legacy of Charles was the upgrade of equipment in 1912, which certainly gave a stay of execution for the venture in the immediate post-war period. Financial hardship and lack of gold for treatment was a threat to economic success. The business operated in an international environment, which in the post-war period was marred by external shocks and movement restrictions. However, the refinery managed to survive no employee was laid off, even when gold reduced to a trickle. Perhaps this is why Palin believed the Rothschild operated in a feudalistic style. It was the philanthropic approach taken by Rothschild, and the many acts of kindness bestowed upon their employees, which ensured the loyalty of the workforce.

Chapter 4

A Dull Period? 1925-1931

This chapter will examine the impact Britain's introduction of the Gold Standard Act 1925 had upon the Royal Mint Refinery. The legislation fixed the price of gold brought and sold in the London market. The Refinery operated in an international sphere and gold was sent to London from all corners of the British Empire. Profit was the main factor that influenced market orientation and gold was automatically sent to the market that would yield the greatest financial return. The Royal Mint Refinery was forced to adapt to a new set of challenges and how it rose to these will be examined. As will be shown, refinery records indicate that the business experienced a significant decline in gold treated by the firm between 1925 and 1929. But rather than the 'dull period' recorded by staff at the Refinery, my research suggests that the period was one of much activity. Reasons for decline and how Rothschild filled the void left by gold is considered. Was this an isolated experience unique to the Royal Mint Refinery or had it been common amongst the other London refining houses? As had happened previously agreements were drawn up between the main refiners and the terms of these will be discussed. The review of the period ends in 1931, which coincides with Britain's abandonment of the gold standard.

Britain's return to a gold standard exchange was announced by the Chancellor of the Exchequer, Winston Churchill, in the Budget Speech of 28 April 1925. As it did before World War 1 Britain's currency would have a set value against gold, which

fixed its parity against other currencies on the gold standard.¹⁹⁷ The Gold Standard Act 1925 came into effect the following day and the price fixed at \$4.26, the same exchange rate as prior to the outbreak of War in 1914. Export restrictions, introduced under the Gold and Silver Act 1920 (discussed in chapter 3), were automatically removed. In the economic malaise of the post war era, unlike the gold standard of the pre-war days, the issue of gold coins was deemed by Churchill to be an unnecessary and an ‘unwarrantable extravagance’ that the financial stringency of the day would no longer support.¹⁹⁸ Churchill appealed to all classes in the public interest ‘to continue to use notes and to make no change in the habits and practices they [had] become used to in the last ten years.’¹⁹⁹ A further proviso of the Gold Standard Act suspended the general public’s right to tender bullion to the Royal Mint to be coined; in future only the Bank of England (the Bank) would hold this role. The Bank was placed under an obligation to sell gold bullion in amounts of not less than 400 fine ounce at a fixed price of £3 17s 10d per standard ounce.

The return to a gold standard exchange had been part of the British government’s planned post-war reconstruction. The plan attracted much controversy at the time, and even today continues to receive attention from scholars. However, one area that has been largely neglected was Churchill’s ambition that Britain’s return to gold offered a revival of international and inter-imperial trade. He hoped that one uniformed standard of value over the wide area of the British Empire would make it ‘like ships in a harbour whose gangways are joined and who rise and fall together

¹⁹⁷ Parity is understood to mean the theoretical price at which one ounce of gold could be purchased in London and, after paying all expenses in connection with the transaction, could be sold abroad to yield the exact purchase price.

¹⁹⁸ HC Deb 28 Apr 1925 vol 183 cc.52-8.

¹⁹⁹ Ibid.

with tide.’²⁰⁰ It anticipated a revival would ensure Britain, if not the central position, a leading place in world financial systems.²⁰¹ Peter Clarke in *Keynes, The Twentieth Century’s Most Influential Economist* noted that Britain’s return to gold had been out of necessity as ‘London’s financial prestige had been at stake’.²⁰² He observed that ‘the gold standard was the symbol... the bankers article of faith it meant that the pound would be as good as gold and that the pound could look the dollar in the face.’²⁰³ The gold standard provided stability in exchange rates because gold had universal acceptability. Gold at that point in time, more so than paper currencies, carried confidence. Britain’s return to gold gave the world a trading and financial centre that commanded confidence and enabled the settlement systems to work.

The argument that 1925 was a turning point in Britain’s post-war economic recovery has been advanced by a number of historians. William A. Lewis, for example, considered 1925 as ‘a cheerful year both in economics and politics... The dark days of post-war dislocation seemed to have been left behind and the prospects seemed good.’²⁰⁴ The short boost coincided with Britain’s return to the gold standard. Aldcroft observed that throughout the extended period prior to the return to gold the ‘faith in the power of the gold standard was unquestioned.’²⁰⁵ He noted that ‘each country thought of itself as attached to gold rather than attached to other

²⁰⁰ Ibid.

²⁰¹ See, for a broader account of the period, Roderick Floud and Donald McCloskey, (ed.) *The Economic History of Britain Since 1700, Volume 2: 1860-1939* (Great Britain: Cambridge University Press, 1994), in particular chapter 9, Forrest Capie and Geoffrey Wood, ‘Money in the economy, 1870-1939’, and chapter 12; Barry Eichengreen, ‘The inter-war economy in a European mirror’; Aldcroft, *From Versailles to Wall Street*; See, for reactions by financial institutions, David Kynaston, *The City of London, Volume 3, Illusions of Gold 1914-1945* (London: Pimlico, 1999), in particular chapter 5.

²⁰² Peter Clarke, *Keynes, The Twentieth Century’s Most Influential Economist* (London: Bloomsbury, 2009), p. 110.

²⁰³ Ibid.

²⁰⁴ W. A. Lewis, *Economic Survey 1919-1939* (London: Allen & Unwin, 1949), p. 34.

²⁰⁵ Aldcroft, *From Versailles to Wall Street*, p. 126.

countries currencies through gold.²⁰⁶ Aldcroft considered that the settlement of reparations and the signing of the Locarno Pact in 1925 were contributing factors that reduced tension and friction in international affairs – a bonus for a merchant bank such as N M Rothschild & Sons involved in international finance.

The London gold market failed to benefit from the fixed rate of exchange. On 28 April 1925, the same day as the budget speech and the day before the gold standard came into force, Rothschild sold 224 bars of gold on the London gold market at a rate of 86/d per fine ounce. The following day gold bars were offered for sale at the quoted price of 84/11½d per fine ounce. No gold was sold until 5 May when 73 bars were sold at a price of 84/11¼ per fine ounce.²⁰⁷ The passing of the Gold Standard Act meant that the price of gold reverted to the old statutory price of 1914. The Bank of England guaranteed to buy or sell unlimited quantities of gold at fixed prices at a buying price of 84/9¾d per fine ounce, 77/9d per ounce standard ounce, and a selling price of 84/11½d per fine ounce, 77/10d½ per standard ounce.²⁰⁸ Following the return to a gold standard the daily price of gold continued to be fixed each morning at eleven o'clock at the Rothschild bank. Throughout the period the price of gold generally fell between the two Bank of England fixed prices, although periodically small fluctuations occurred.²⁰⁹ Gold from the British Empire constituted the majority of business transactions through the London market. The Bank of England also offered gold held for sale on behalf of clients at the daily fixing, only purchasing the gold at the statutory price for the Bank's own reserves if no higher price could first

²⁰⁶ Ibid., p. 154.

²⁰⁷ RAL, XI/35/64, Draft Memorandum, 'Gold Market', 1937.

²⁰⁸ RAL, 148/24/7, Evidence provided by Norman Raven, NMR, to solicitors, Bischoff & Co., acting on behalf of Iraq Petroleum Company regarding 'Mechanism of the Gold Market', 1951.

²⁰⁹ Ibid.

be obtained through the market.²¹⁰ During the first two weeks following the restoration of the Gold Standard there were small demands for gold bars amounting to £2,100,000, which increased to £2,500,000 the following week. Thereafter the amount purchased improved almost weekly until it reached £8,651,000.²¹¹ The gold holding of the Bank of England at the end of 1925 stood at £142,763,880.²¹² By 1928 most of the principal countries had returned to a gold standard.

According to the annual round up of the bullion market, presented by Samuel Montagu & Co., 1926 was a year of ‘disappointment and anxiety’.²¹³ The immediate impact of the gold standard was to fix a price for gold. For the gold industry the fixed price meant a loss of profit, less investment potential, effectively the return to the gold standard stalled development of the gold industry.²¹⁴ Although on a positive note the company’s bullion letter recorded that:

Further advances have been made in international amity, exchange difficulties and the new national or more stringent tariff barriers created by the new national entities and other countries have still continued to hamper World Trade – so vital for the recuperation of labour and capital.²¹⁵

It was observed that ‘the most interesting feature of the year has been the reduced demand from India’ with ‘direct shipments made from Durban to Bombay showing a reduction of about £4,000,000’.²¹⁶ The decline clearly had a positive impact on the amount of gold shipped to Britain from the Transvaal and Rhodesia as imports

²¹⁰ Ibid.

²¹¹ RAL, XI/35/64, Gold Review, 1925.

²¹² Samuel Montagu & Co., *Annual Bullion Review*, 1926, p. 3.

²¹³ Ibid.

²¹⁴ Only limited growth in world newly mined gold from 1925 to 1929 was recorded. Production levels remained between £81million and £83.5million. There was little incentive to raise production or to invest in the costly deeper shaft mining methods being developed on the Rand. See, for further evidence, Samuel Montagu & Co., *Annual Bullion Review*, London, 1929.

²¹⁵ Samuel Montagu & Co., *Annual Bullion Review*, London, 1926, p. 3.

²¹⁶ Ibid.

increased from the 1924 figure of £23,750,000 to £33,000,000.²¹⁷ The gold export market also experienced some alterations in the world flow of gold. A fixed price on gold meant that profits made from purchasing gold had decreased and as a result fewer shipments of gold were sent to America.²¹⁸ An enormous fall in shipments, from 3,860,000 ounces in 1924 to just 59,219 ounces in 1925, was reported by *The Economist* who blamed the downturn on Britain's return to a gold standard. It was suggest that the introduction of the Act caused sterling currency to appreciate to a point at which gold was no longer as remunerative to the South African producers as sales to other parts of the world.²¹⁹ Throughout 1925 a considerable quantity of gold exports, £12,500,000, in large consignments were conveyed by air to Germany.²²⁰ The Bank of England was able, until September when continental demand increased, to secure a good portion of gold received by London each week, but the overall net holdings of the Bank, since returning to the gold standard, reduced from just over £11,000,000 in January to £5,424,000 by December.²²¹

An employee of Rothschild remarked that the instigation of the gold standard in 1925 marked a 'dull period' for the London gold market.²²² Records at the Royal Mint Refinery support the statement. Initially a slight improvement in gold treated by the refinery was recorded for 1925 at just below 2.5 million ounces.²²³ However, decline soon returned to the refinery and from 1926 treated gold steadily dropped each year before an all time low was reached in 1929 when gold treated stood just

²¹⁷ Ibid.

²¹⁸ RAL, XI/35/64, Gold Review, 1926.

²¹⁹ *The Economist*, 22 May, 1926, 'Central Mining and Investment Corporation Ltd., Company Meeting Reports and Statements', pp. 28-33.

²²⁰ RAL, XI/35/64, Gold Review, 1926.

²²¹ Ibid.

²²² RAL, XI/35/64, Draft Memorandum, 'Gold Market', 1937.

²²³ RAL, 148/24/3, RMR Silver and Gold treated.

above 800,000 ounces.²²⁴ The main reason for the decline was due to profits; producers sought the market that presented the greatest profit for their gold. It was recorded that ‘the bulk of the South African production no longer came direct to the Royal Mint Refinery for realisation, since it was dealt with through the South African Reserve Bank or direct shipments from Durban to India.’²²⁵ In the twelve months preceding the reinstatement of the gold standard over half the gold produced in South Africa was sold locally, which had led to a change in exchange rates between Britain and South Africa. *The Economist* reported that:

whereas, the union currency commanded a premium over sterling, the position gradually became reversed, and since May last, with the exception of a short period towards the end of the year, a premium was obtainable on transfer of funds from London to South Africa. This indicates a great change, and is the natural effect of the altered method of selling gold on the balance of trade between the two countries.²²⁶

Thus another obstacle was placed in the way of the profitability of the Rothschild refinery that would need to be overcome. Supplies of gold in the London market remained comparatively low. The weekly shipments of gold bars from the Rand Refinery were now only offered when the price obtainable was in excess of the Bank of England price, sales were still made through Rothschild, and any unabsorbed gold was purchased by the Bank of England at the buying price.

The reintroduction of the gold standard, to all intents and purposes, marked the end of the African Gold Realisation Account operated by Rothschild. Although the impact was not immediate, by the end of May 1926 the first signs of strain appeared. Correspondence from the National Bank of South Africa alluded to the decision to withdraw from the Pool Account from 30 June 1926. The Pool Account had been set

²²⁴ Ibid.

²²⁵ Ibid.

²²⁶ *The Economist*, 22 May 1926 ‘Central Mining and Investment Corporation Ltd.’, pp. 28-33.

up by Rothschild in 1919, following the re-establishment of shipments of gold from the South African producers to London immediately after World War 1. All gold had been sold on arrival in London and every transaction was passed through the Pool Account, profits were divided quarterly amongst members, in proportion to their contribution of fine ounces.²²⁷ The Pool Account enabled producers to act as a collective and to hold a degree of autonomy over the market. By 1926 this was no longer the case. In order to regain control and increase profitability the National Bank of South Africa sought to resume pre-1919 arrangements with Rothschild and Johnson Matthey. It proposed that gold requiring treatment would be divided equally between the two firms at the fixed price of the day. Whilst Johnson Matthey was eager to agree to the request Rothschild were reluctant to enter an agreement of this nature and cited a number of obstacles that stood in the way of making a profit from such a deal. The main concern was that during the earlier arrangement the price of gold hardly fluctuated from the Bank of England's buying price of 77/9d per ounce standard, whereas the price now fluctuated between the Bank's buying price and selling price. The view held was that it seemed:

bad business for the refiners to agree to buy gold at a price which they cannot foresee and cannot control, unless they were [confident] that they would be able to refine in time to sell the total amount at the price at which they [contracted] to buy it.²²⁸

The market was based on supply and demand and the price of gold reflected this. Therefore, had a refiner purchased gold at the Bank of England's official selling price of the day of 84/11½d and the following day demand for gold diminished the refiner may only have realised a price of 84/9¾d, being the buying price for the day. Rothschild rejected the offer and explained the difficulty in reverting to pre-war trading conditions, despite some reassurances offered by the National Bank of South

²²⁷ RAL, 148/11, Memorandum on the division of profits (No date).

²²⁸ Ibid.

Africa to include 'reasonable safeguards' in any agreement to counteract any anomaly. The Bank of England subsequently retired from the Pool Account together with several of the other sellers.

The implications of the decision taken were recorded by Rothschild who observed that 'it seems useless to run a Pool Account on behalf of the remaining sellers' for if various sellers decided to act independently it would have the effect of reducing the official gold price, except when demand exceeded the supply.²²⁹ It was therefore decided to suspend the account and inform all remaining members that:

owing to complication of there being several sellers and in consequence of our inability to influence the price of gold, we shall no longer be able, in acting selling agents for them, to give them preference over other sellers, but that if they so desire we should be pleased to continue the Pool Account, reducing our charges to a minimum it should, however, be understood that we anticipate that the official price will rarely, if ever, exceed the Bank of England buying price, and that their production will be treated *pari passu* with other supplies.²³⁰

A modest commission rate of 1/4 0/00 was offered to those who wished to retain membership to the Pool Account for gold sold in the market at 84/10½ d or over. A commission of 1/16 0/00 was charged in respect of all gold deposited at the Bank of England, these charges being debited to the seller. The South African Mines (gold refined at the Rand Refinery), Rhodesian Mines (gold refined in London) and the West African Mines (gold refined in London) made up the members of the revised Pool Account. The account was also used to distribute profits received from the interest of early payments (approximately 1d per ounce) and also the saving on shipping charges, etc., (in the region of 5d per ounce) when the policy of selling

²²⁹ Ibid.

²³⁰ Ibid.

South African gold ex- Durban was adopted.²³¹ All gold was subsequently offered up at the gold fix by the Bank of England; through its appointed agent, Rothschild, which continued to sell South African gold in the London market.

During 1927 there was a significant drop in the amount of gold sent to the Royal Mint Refinery. Profits were affected by the lack of gold sent to London. Over the next two years the downward trend continued until 1929 as shown in Table 4. This also shows the subsequent effect the suspension of the Pool Account after 1926 had upon the Refinery.

Table 4. 'RMR Gold Treated 1925-1931'

Royal Mint Refinery Gold Treatment			
Year	Oz.	Year	Oz.
1925	2,362,370	1929	802,840
1926	1,327,582	1930	5,592,160
1927	891,025	1931	4,913,267
1928	851,978		

Source: Compiled from RAL/148/24/3 –RMR Silver and Gold Treated from 1905 to 1948.

Table 5. 'World Gold Production, 1925-1931'

World's Gold Production, 1925-1931			
Year	Oz.	Year	Oz.
1925	19,025,942	1929	19,500,152
1926	19,349,118	1930	20,836,318
1927	19,431,194	1931	22,818,701
1928	19,700,049		

Source; Sharps & Wilkins' *Bullion Circular Review of 1935*, p.7.

²³¹ Ibid.

An interesting feature of the period is that there is no correlation between the decreased business levels at the refinery and the variation in world gold production levels, which overall remained stable throughout the period with only minor fluctuations being recorded, as expressed below in Table 5.

The pursuit of profit was the main factor that attracted gold to London. The last major gold rush had occurred in 1884 when the South African gold discoveries were made. Investment in the late 1920s mining industry was not as attractive as it had once been due to the increased difficulties in the recovery of gold and steep production costs that diminished an investor's return. All of which contributed to the lack of incentive to increase world output. A report on the prospects of the South African gold mines published in *The Economist*, directed readers to prevailing factors that had saved the industry in the past 'more than once the mining industry has been threatened by rising costs and has been saved by circumstances, which could not have been foreseen.'²³² These circumstances were not present at this point in time. Despite the ability and enhanced skills of mining engineers' and metallurgists', which had further developed by the early 1930s, the gold industry had to wait until after the abandonment of the gold standard in 1931 before experiencing the next great leap in the profitability of gold production.

N M Rothschild & Sons followed a well tried and tested business strategy in pursuit of profits. Michael Lisle-Williams identified a number of strategies engaged by merchant banking dynasties, particularly those under family control such as Rothschild, in order to fully exploit commercial opportunities. He observed that prior

²³² *The Economist*, 'Prospects of the South African Gold Mines', 30 Jan 1926, pp. 9-10.

to 1957 merchant banks were united behind the leadership of the Bank of England, and that any power struggles were hidden behind an impenetrable wall of silence.²³³

N M Rothschild & Sons was larger than most of the other London establishments and had more power globally. The Royal Mint Refinery fitted into the overall business portfolio and strategy employed by the bank. The research of Miguel Lopez-Morell and Jose O’Kean highlighted patterns of behaviour, target sectors that attracted and influenced Rothschild to pursue business within certain chosen sectors. They identified certain prerequisites, which included trade sectors where there was a rigid demand, a highly concentrated supply and a large control of the product market.²³⁴ It was shown that through monopolistic practices and cohesive agreements Rothschild was able to develop control, directly and indirectly, in four international markets of various products; mercury, lead, copper and nickel and pyrites.²³⁵ The findings of Lopez-Morell and O’Kean could be applied to Rothschild’s relationship to gold, which exhibited a number of the variants presented. One key practice was the extensive research undertaken by Rothschild to acquire in-depth market knowledge; no investment was entered into blindly. In 1886 the Exploration Company, an enterprise initiated by Nathaniel de Rothschild (1840-1915), 1st Lord Rothschild, and Hamilton Smith, an American mining engineer was part of the resources Rothschild employed. The Exploration Company sponsored mining enterprises, through their involvement Rothschild gained an early foothold in many of the South African gold mines.²³⁶ The main element of the strategy was to

²³³ Michael Lisle-Williams, ‘Merchant Banking Dynasties in the English Class Structure: Ownership, Solidarity and Kinship in the City of London, 1850’, *British Journal of Sociology*, 35 (Sep., 1984), 333-362 (p. 336).

²³⁴ Miguel A. López-Morell & José M. O’Kean. ‘Seeking out and building monopolies, Rothschild strategies in non ferrous metals international markets (1830-1940)’, *Conference of the European Business History Association, Glasgow*, Paper Pending Publication (Aug 2010), p. 3.

²³⁵ Ibid. p. 2.

²³⁶ See, for an account of the company and its operations, Turrell R. Vicat and Jean Jacques Van Helten, ‘The Rothschilds, The Exploration Company and Mining Finance’ *Business History*, 28 (1986), 181-205 (pp. 181-205).

either assume administrative monopolies or take control of the leading business of the respective sectors. An example of this was the administrative control Rothschild gained over areas of the gold trade (discussed in chapter 3).

The monopolistic relationship of Rothschild was replicated and reinforced through the merchant banks relationship with the developing South African gold trade.²³⁷ Rothschild was able to build a platform for investment by offering finance to newly established mining ventures. Members of the Rothschild family also privately purchased share options in their own right, boosting market confidence.²³⁸ Much of the administration for the mining syndicates was undertaken by firms located in London. Annual profits and dividends were generally paid in sterling. Rothschild would probably have facilitated a number of these transfers. Rothschild also profited from transshipping gold to London through the connection to the Alliance Insurance Company and freight insurance.²³⁹ Once gold reached London refining became part of the transaction. Through the credibility of the Royal Mint Refinery they were able to form special relationships with the Bank of England who entrusted the firm with the task of administering the gold fix and had trusted the firm to issue licences that controlled the export of gold. However, as will be seen in the research into Partnership and Collaboration and Supply and Demand, there are

²³⁷ In 1936 the cost of opening up a new mine was estimated to cost in the region of £500,000. A development period of 4 to 5 years before construction commenced was not unusual. It was anticipated that two shafts to cost between £30 to £50 a foot, and each shaft would drop to a depth of 5000 feet. Information provided in D Jacobsson, *Fifty Golden Years of the Rand, 1886 to 1936* (London: Faber & Faber, 1936), p. 134.

²³⁸ Lord Rothschild invested his personal capital in Gold Fields of South Africa Limited. He was a founding shareholder in the venture holding a 1/30 share. He subsequently profited from concessions. Records held at The Rothschild Archive show a large number of mining shares deemed as being worthless. However investment in concerns such as DeBeers, Consolidated Mines and Rand Mines were highly lucrative. Further investigation into the profitability of capital invested in mining shares is required.

²³⁹ N M Rothschild & Sons were one of the founding members and continue to hold a number of shares in the Alliance Insurance Company, established in 1824. Through a series of mergers the company now trades under the banner of RSA (2008).

certain conditions when the Rothschild business strategy did not work. Johnson Matthey was the main rivals of the Royal Mint Refinery. Johnson Matthey hindered the overall control of gold that required refining. Also, Rothschild was less able to develop relations with gold producers outside the British Empire. How Rothschild dealt with Soviet gold after 1925 provides evidence of how political relations affected the market.

By 1925 the Royal Mint Refinery relied on gold produced in areas of the British Empire: gold sent from West Africa kept the refinery afloat. The strong market position in gold held by Rothschild had gradually diminished partly due to the opening of the Rand Refinery in 1923, which now treated much of the South African gold, and also because of Johnson Matthey.²⁴⁰ From 1925 Johnson Matthey commanded a greater market share of gold sent to London for treatment. Both factors affected the profitability and performance of the Rothschild venture that was forced to compete for the depleted stocks of gold sent to London. The outlook for the Royal Mint Refinery was rather henceforward gloomy.

Johnson Matthey, through a series of mergers, had strengthened and increased the share commanded by the firm in both the London market and internationally. Both refiners frequently tried to outbid each other for work. Despite the increased competition both firms held specific areas of expertise; the Rothschild refinery was recognised for its capacity and ability to undertake bulk refining contracts, which other London refiners were not capable of handling. Johnson Matthey specialised in

²⁴⁰ In 1929 the share of newly mined gold for the Transvaal stood at around £44.5million, which equated to 53.4% of the total world output. See, for further information, Jacobsson, *Fifty Golden Years of the Rand*.

the treatment of platinum and as demand for platinum diminished the firm sought alternative work. Donald McDonald, an employee of Johnson Matthey, recalled that ‘the earning power of the business was severely affected by the conditions of trade outside especially by the weakness of the platinum market.’²⁴¹ The position of the firm was exacerbated following increased competition from German refiners, who by 1925 dominated the Scandinavian market. However, Johnson Matthey was able to offer customers a better deal for silver and fabricated metal. Although, in respect of bullion McDonald observed that competition was soon eradicated as the London firms would quote the same price and remarked that ‘unless a product of our own refinery was available there was nothing in it.’²⁴²

Most London refineries were affected by the downturn in business and subsequent attempts to fill the void left by gold were often thwarted. In the case of the Sheffield Smelting Company attempts to move into the new stainless steel market flopped. The period 1925-8 was recorded in the company’s history as dire.²⁴³ The firm was not of the same calibre refiner as Rothschild or Johnson Matthey, and was unable to take advantage of same network of agents as the two larger firms. The venture stayed afloat with the help of Rothschild and Johnson Matthey who frequently passed business on. Also the firm was able to secure a contract with the Rand Refinery to treat the refinery’s ‘sweep’, which ensured its survival during the lean period.²⁴⁴

²⁴¹ McDonald, *The History of Johnson Matthey*, p.84.

²⁴² Ibid., p.135.

²⁴³ Wilson, *Two Hundred Precious Metal Years*, p.217.

²⁴⁴ The term ‘sweeps’ refers to trade waste; refiners went to great lengths to gather up the fragments of precious metals lost during the refining process (discussed in chapter 2).

According to McDonald, Johnson Matthey took advantage of the slack period to forged ahead with plans for modernisation adopting new refining techniques and moved into new areas of chemical research. Whilst there is little doubt that the firm took the lead over other refiners the advice of senior Rothschild employees was frequently sought. This offers an example of duopoly for direct competition slowly evaporated as both firms entered into a number of joint ventures. The close working relationship with Rothschild presented Johnson Matthey with a mechanism for international settlement as well as financial backing and security. In addition they were able to take advantage of the greater refining capabilities of the Rothschild venture, and the Lodge Cottrell vaults owned by the firm provided Johnson Matthey with an additional resource to attract foreign business. However, it was Johnson Matthey not Rothschild who had the foresight to break into the Soviet market and were able to purchase Russian residues from various gold refining operations, these had contained platinum and various other rare metal of little contemporary value; one example was Rhodium of which they later became principal suppliers.²⁴⁵

Part of the reorganisation of Johnson Matthey had involved the relocation of the refining operation, which had once sprawled across various locations in the City of London. These were subsequently brought together in a brand new purpose built five storey building located 12 miles from Hatton Garden at Brimsdown, near Enfield, North London. The move enabled the firm to specialise in the development of chemical practice and it invested heavily in a new laboratory. Although the main offices remained at Hatton Garden the Brimsdown location offered less restrictions than the built up City environment. The Sheffield Smelting Company also took

²⁴⁵ RAL, 000/1312, 'A G Hunt to Spencer Richards', 23 Sep 1994; Arthur Hunt was employed in the laboratory at RMR between 1925 and 1965.

advantage of the lull in trade and introduced a variety of improvements to its operation. Some readjustments took place at the Royal Mint Refinery, mainly the improvement to the laboratory research division. Part of the planned improvements had been the engagement of specialised staff. Arthur Hunt was employed by the refinery in 1925 because of his extensive knowledge of platinum. Whilst at university Hunt had researched arsenical compounds – now referred to as chemical warfare agents. However, it was not until 1932 that improvements and upgrading of buildings and equipment were conceived by Rothschild.

It is interesting to note that the 1926 Samuel Montagu annual bullion review, following a review of gold levels and suggested remedies for improvements, made reference to Soviet gold output. It was suggested that if given ‘encouragement and protection’ Soviet gold production could be significantly increased.²⁴⁶ The Annual Bullion Review reported that:

The Soviet Government has come to a friendly arrangement with the Lena Goldfields; this fact and the discovery of other gold bearing deposits in tributaries of the Lena, make the Soviet proportion of world gold supplies more promising than during recent years. Provided prospectors be given due encouragement and protection, the world’s production of gold could be substantially increased by systematically working the richly mineralised areas of Siberia.²⁴⁷

The prospect of another Californian, Australian or South African gold strike created much excitement. A new find would boost the world’s production of gold substantially. This was news that would have been welcomed at the Royal Mint Refinery as shipments of gold sent to London from Africa had dwindled. The gold presented a renewed source of supply as Lena had been a customer of the Rothschild

²⁴⁶ Samuel Montagu & Co, *Annual Bullion Review*, 1926, p. 8.

²⁴⁷ Ibid.

refinery prior to the outbreak of the First World War, if only gold could be attracted to London.²⁴⁸ Part of this attraction depended upon Anglo-Soviet trade relations and the establishment of trading links.

Historically, prior to 1914, gold productions levels in Imperial Russia had been sizeable, despite the primitive methods of mining used. Between 1914 and 1922 gold production levels had almost ceased to exist. Under the leadership of Lenin (1917-1924) increased gold production levels was not regarded as being high on the list of priorities. Unlike a capitalist system, where holding gold was a necessity, in a socialist framework it was believed that gold would hold little value and become useless. One observer noted that ‘the Government itself owned all gold, as it did all minerals’ and whilst it was ‘trying hard to mine its other minerals such as iron, copper, zinc, and the like because these were recognised as useful under socialism.’²⁴⁹ Attention to gold was scant and the central Government held little interest in the metal, it did little to prevent the large scale gold smuggling operations that took place across the southern borders.

In 1921 Lenin wrote that gold might be used ‘to cover the walls and floors of public lavatories.’²⁵⁰ However, until the socialist paradise had been created, he conceded that the new Soviet State would need to store its gold in order to ‘sell it at the highest price, buy goods with it at the lowest price’ for ‘when living among

²⁴⁸ See, for a detailed account of Consolidated Gold Fields investment in Russian gold mining industry and ownership of Lena Company, A. P. Cartwright, *Gold Paved the Way* (London: Macmillan, 1967), particularly Chapter 16, ‘A Gamble in Foreign Parts’.

²⁴⁹ John D. Littlepage and Demaree Bess, *In Search of Soviet Gold* (New York: Harcourt, Brace and Company, 1938), pp24-5.

²⁵⁰ Green, *The New World of Gold*, p.85.

wolves, howl like the wolves.²⁵¹ Between 1922 and 1927 gold production levels, although sporadic, increased. Sabotage and the lack of resources to replace broken machinery meant that only easily extractable gold close was mined. Under Stalin (1924-1953) the gold industry entered a period of modernity and the Soviet Gold Trust was formed in 1927. Mining methods and engineers were recruited from the United States and introduced American working practices in a bid to improve production levels of the Soviet mines.²⁵² By 1928 the number of mining schools had been increased and existing mining academies brought up to date with the latest methods of gold extraction in order to keep up with the increased demand for technical personnel. The industry underwent a radical overhaul and by the mid 1930s gold production levels had more than doubled to 5 million ounces a year, overtaking that of the USA, Canada and Australia. Despite the improvements to the Soviet gold industry output continued to lag behind South Africa's.

One of the Britain's principal post-war policies followed throughout the early 1920s had been the normalisation of trade relations with the new Soviet State. In reality events were more complex and should not be oversimplified. Although an Anglo-Soviet accord between the two nations was agreed in 1920 it was subject to the enactment of four key points, which would allow trade barriers to be removed.²⁵³ The failure to act on all points, in particular the recognition of the Soviet government

²⁵¹ Ibid.

²⁵² The account provided by Littlepage into the development of Soviet Gold production has received criticism from historians for his political naivety and his failure to relay the miserable conditions the cheap workforce endured; made up of war and political prisoners' provided by Stalin's regular purges. For further details see Lisa Godek, 'The State of The Russian Gold Industry' *Europe-Asia Studies*, 46 (1994), 757-777; And Donald Chaput, 'Gold for the Commissars: Charles Janin's Siberian Ventures' *Huntington Library Quarterly*, 49 (1986), 385-400.

²⁵³ A brief summary of the four conditions for an Anglo-Soviet accord were 1. Refrain from interference in the internal affairs of the other; 2. Immediate exchange of prisoners; 3. Recognition by Soviet to pay compensation to private citizens and settlement of debts; 4. Mutual granting of trade facilities. See, Paul W Doerr, *British Foreign Policy 1919-1939* (New York: Manchester University Press, 1998) p. 414.

to pay compensation to private citizens and the settlement of other debts thwarted initial attempts to re-establish a full trading cycle. Strong opposition had come from bankers in the City of London, represented by Montagu Norman. The essence of their argument was that ‘no agreement should be signed unless the Soviet government recognised all rather than only some classes of debts contracted by themselves and by previous Russian governments.’²⁵⁴ However, the Soviet government was keen to establish trade links but on their terms. Notice of trade intentions were laid out in a telegram sent on 24 December 1920 between the Soviet representative in London and his colleagues in Moscow. It was noted that ‘we must first draw England and other countries into commercial and business intercourse with us; it is necessary that no commercial concessional interests should become so firm, that our refusal at the peace conference to pay old debts shall not result in a new blockade or intervention.’²⁵⁵ As gold was one of the only commodities the Soviets had to trade with, and one that was highly desirable amongst capitalist societies, there is no doubt that Britain took full advantage of the situation and regular shipments of gold found their way to London. Clarke suggested that supplies of gold were drawn to London simply as a reflection of the capital as a financial centre, with the presence of bullion dealers, brokers and banks that had the expertise and connections to dispose of large quantities of gold quickly through an established and stable wholesale market.²⁵⁶ Samuel Montagu’s 1927 annual bullion letter reported £4 million of Soviet gold had been sent to London. Nevertheless the

²⁵⁴ Ibid.

²⁵⁵ Ibid., p. 426.

²⁵⁶ Clarke, *The Golden Thread*, p. 64.

window of opportunity was only opened for a short period before relations became strained.²⁵⁷

The monopoly once enjoyed by Rothschild and the ability to secure a large proportion of the new supplies of the gold from South Africa lay in the past. In the future the playing field was much more level. The influence Rothschild once had over newly produced gold would be regularly challenged and it was the pursuit of the highest profit to be made on gold that would determine where shipments would land. The increased levels of Soviet gold production presented an ideal business opportunity for Rothschild, who sought to establish trading links with the emerging market. The opportunity would also no doubt have benefited the Royal Mint Refinery as the rough gold bars required treatment to bring them up to acceptable quality before being sold on the London market.²⁵⁸

In 1926 N M Rothschild & Sons actively engaged in gold transactions with The Standard Bank of Russia. Over £500,000 worth of gold bars owned by the Russian bank lay in the merchant bank's vault. Rothschild was eager to strike a deal to put the gold to commercial use and offered its Russian clients a chance to make a profit on the gold rather than leave it to collect dust. Various terms were put forward by Rothschild, which included the loan of the gold for a six month; in return for a good

²⁵⁷ Anglo-Soviet relations were at their height between February 1924 and May 1927 at which point relations deteriorated following the ARCOS raid in London. It was not until the re-election of the Labour Party, under MacDonald, in 1929 that relations improved. The production levels of newly mined gold were shrouded in secrecy therefore only estimated figures exist for the period. Source: Doerr, *British Foreign Policy*, pp. 98-9.

²⁵⁸ Standards applied to gold offered for sale in the London market. During the nineteenth century the standard weight of a bullion bar increased from 200 ounces to 400 ounces and 995 fine. A small piece was cut from each bar and sent to independent assayers recognised by The Bank of England. Rothschild used the firm of Claudet.

rate of interest and the exact amount of gold returned at the end of the term.

Alternatively, Rothschild was happy to dispose of the gold on the Bank's behalf in return for a small fee. The move would certainly have boosted the confidence of the financial markets for the merchant bank, to have access to a vast quantity of the highly desirable gold. It is unclear from records when the gold was received, if it had been treated at the Royal Mint Refinery or more importantly what became of it.

However, it does indicate that Rothschild was keen to take advantage of the expanding Soviet gold production and had attempted to establish direct trading links.

Unfortunately for Rothschild it was Johnson Matthey that succeeded in forging Soviet trade relations through the official Trade Organisation in London and had secured a large silver refining contract in 1925.²⁵⁹ In addition both the London refineries faced an increased threat from German refiners as shipments of Soviet gold were sent there.²⁶⁰

In 1928 Rothschild recorded that 'as practically no refinable gold now comes to this country, the importance of attracting as much gold as possible to the open market in London cannot be overlooked.'²⁶¹ The reported shrinkage in the world production levels of gold was a key feature during the period and concerns were regularly expressed for the static output. Fears were heightened when in 1928 reports over the 'exceptionally heavy' outflow of gold from the United States, worth approximately \$500 million dollars, were published.²⁶² The greater portion, around \$308 million dollars, of gold had gone to France; only \$32 million dollars had made

²⁵⁹ McDonald, *The History of Johnson Matthey*, p. 45.

²⁶⁰ TNA, CAB/24/202, 'Memorandum, The Situation in Russia', 12 Mar 1929, p.12; It was reported that during 1928 extensive imports of bullion and specie from Russia to Germany, in the region of 45 per cent of the total output of Soviet gold.

²⁶¹ RAL,148/11, 'Note of conversation on Gold between Messrs. Rothschild and the London Bullion Brokers', 19 Sep 1928.

²⁶² Samuel Montagu & Co., *Annual Bullion Review*, 1926.

it to Britain.²⁶³ Germany also presented a threat as between July and December 1927 nearly £20 million of gold had been purchased through the London market.²⁶⁴

Despite the best efforts of the Royal Mint Refinery 1929 represented the worst year for gold refining in the history of the firm. As indicated in Table 6 below, gold treatment at the refinery hit rock bottom. In 1930 a sharp recovery was experienced. The recovery coincided with the crash on Wall Street. John Giuseppi, in his study of the Bank of England, observed that the ‘Wall Street crash strengthened London for a while.’²⁶⁵ Renewed confidence in the London market meant that it became a safe haven for gold. It was not long before the ripples from Wall Street were felt elsewhere. Giuseppi suggested that ‘the nadir was reached in 1931, which saw the greatest financial crises ever known.’²⁶⁶ Unsurprisingly, therefore, Britain abandoned the gold standard in September 1931. The system broke down not because of any weakness but due to excessive debts, nationalism and political fear that stopped the free flow of goods and funds.²⁶⁷ The immediate results of abandonment were not serious, rather than being detrimental it marked a turning point in Britain’s economic recovery. The market remained buoyant and the price of gold was allowed to find its own level floating between £5.50 and £6.34 per ounce; the dollar remained stable at \$20.67 per ounce.²⁶⁸ The move meant that gold flowed into London attracted by the price it commanded.

²⁶³ Ibid.

²⁶⁴ Samuel Montagu & Co., *Annual Bullion Review*, 1928.

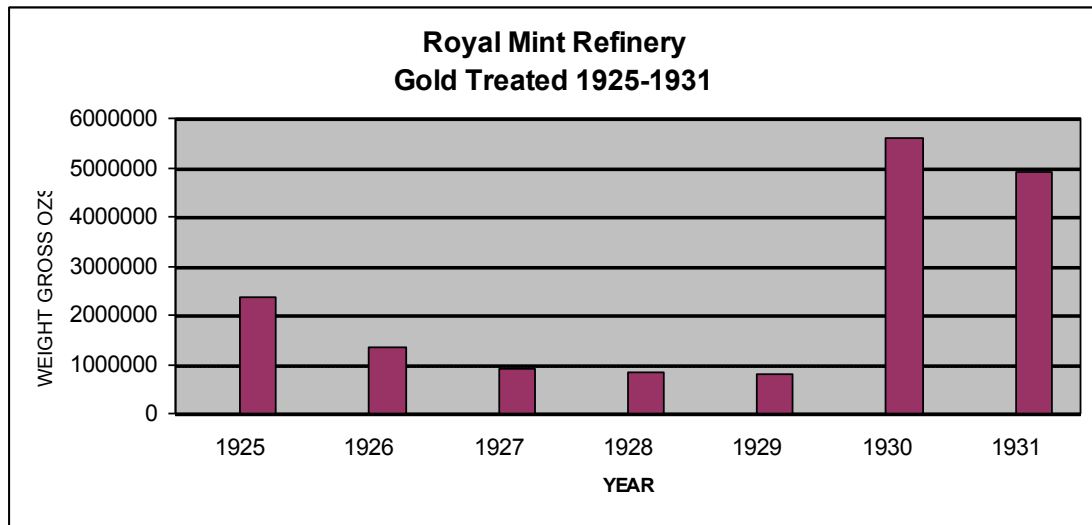
²⁶⁵ Giuseppi, *The Bank of England*, p. 161.

²⁶⁶ The collapse of the Credit Anstalt on 11 May 1931 touched both the London and Paris Rothschild banking houses as they were forced to bail out their cousin in Vienna. See, for further details of the collapse and part played by Rothschild in the crisis, Aurel Schubert, *The Credit-Anstalt Crisis of 1931* (Cambridge University Press, 1991).

²⁶⁷ See Kynaston, *The City of London*, vol.3; chapter 9 for an account of events that lead to Britain’s abandonment of the gold standard; chapter 13 for short and long term effects of abandonment.

²⁶⁸ Cartwright, *Gold Paved the Way*, p. 200; the immediate effect of abandonment of the gold standard by Britain was the revaluation of gold mines throughout the world. Large blocks of previous

Table 6. 'RMR gold treated, 1925-1931'



Source: RAL, 148/24/3, Gold and Silver Treated 1905-1948.

The increased price paid for gold in London attracted huge consignments of gold coin from India. Hoarders tempted by the profits that could be made sent regular shipments of gold coin to the Royal Mint Refinery to be turned into 400 ounce bars and placed for sale on the London market. In November 1931 Alliance Assurance, the marine insurers of the Royal Mint Refinery, confirmed an uplift from the normal sum insured for gold held at the Refinery from £300,000 to £700,000, which reflected the higher levels treated.²⁶⁹ The increase in the price of gold also provided a renewed incentive in Africa to search out new deposits of gold and improve deep shaft mining techniques. The plateaux in gold levels disappeared as new discoveries were made on the far West Rand and the South African production rose. By 1933 world production of newly mined gold were recorded as reaching 25 million ounces.²⁷⁰ The boost in production was reported at the Royal Mint Refinery; the

unviable mines became profitable. The value of the assets of Gold Fields doubled overnight. By 1934 Company profits had increased from the 1931 level of £438,000 to £1,388,000.

²⁶⁹ RAL 148/12, 'Alliance Assurance Company, London to Bullion Department, N M Rothschild & Sons', 12 Nov 1931.

²⁷⁰ Green, 'Precious Heritage', p. 469.

work lost by the opening of the Rand Refinery in 1922 was finally offset by sizable shipments of gold sent to London from the goldfields of West Africa.

To sum up Britain's return to the gold standard in 1925 had a significant impact on business at the Royal Mint Refinery. The fixed gold price selected by the British Government rendered an immediate and significant drop in the profit margins for gold producers, which ultimately affected the levels of gold sent to the London market for treatment and sale. Branded by Churchill as an 'unwarrantable extravagance', gold was effectively removed from everyday life as the Bank of England were no longer obliged to sell gold in quantities of less than 400 ounce bars. Interestingly this took place with limited resistance. The lure of higher profits meant that other markets were sought. London was no longer the preferred market of the South African producers. This had a negative impact on the Royal Mint Refinery. During the first period of the gold standard the refinery fared badly as work gradually dried up. The future viability of the refinery depended on finding alternative sources of business to fill the void left by gold. The crisis drew London rivals together and Rothschild and Johnson Matthey forged links in a bid to stave off competition from European refiners. Johnson Matthey took advantage of the eradication of competition between the London refineries to embark on a radical overhaul of its operation. Rothschild remained suspicious of Johnson Matthey.

Hopes were raised when reports of a Soviet gold rush reached London. At first the news was welcomed at the Royal Mint Refinery. However, Rothschild was unable to apply their well formatted business strategy and assume control of the emerging

market, or even to receive a guarantee that Soviet gold would be sent to London.

Failure to secure the emerging Soviet market highlights the longevity of the relationship between Rothschild and many of the South Africa gold producers.

Direct and indirect relationships reinforced London as the main sphere of financial influence for the South African mining industry. Part of the reason for the failure to secure Soviet gold must be attributed to diplomatic relations, which played a

significant role in where to market its gold. Research into the emerging markets highlights the venerability of Anglo-Soviet trading relations in the inter-war period.

Links between the two nations were not strong enough to assume that London would be the preferred market for Soviet gold. The pursuit of profit dictated where large consignments of Soviet gold were sent and many found their way to Germany over London.

By 1929 gold treated at the Royal Mint Refinery was at an all time low. Rather than being a 'Dull Period' in the history of the refinery it was an extremely busy time which saw every effort being made to ensure that the Refinery continued to trade.

Circumstances, however, went beyond Rothschild's immediate control, the opening of the Rand Refinery in 1922 and the introduction of the gold standard in 1925, were to blame for the dire position at the Refinery as work dried up. Rothschild did not suffer alone the squeeze was felt by the other London refineries. The fixed price for gold meant that there was less return on investment and even less incentive for producers to increase their overheads to find new gold supplies. The gold industry stalled. A slight recovery came in the form of the Wall Street crash of 1929. London became a safe haven for gold and shipments became more frequent. By the time Britain abandoned the gold standard in September 1931 business at the Rothschild

refinery was on its way to recovery. The higher price for gold attracted both newly mined and gold coin to the refinery, both required treatment before being sold on the London market. The Royal Mint Refinery started the 1930s treating 5,500,000 ounces of gold, by 1932 this had which subsequently increased to 12,500,000 ounces.²⁷¹

²⁷¹ RAL,148/24/3, 'RMR Silver and Gold treated from 1 Jan 1905- 31 Dec 1948'.

Chapter 5

“Gold Rush”, 1931-1936.

This chapter examines the effects on the Royal Mint Refinery when Britain left the gold standard on 19 September 1931, having struggled through three years of intense crisis. Sterling broke free from its fixed parity and depreciated and set a course out of depression for the British economy as exports became competitive and credit cheaper.²⁷² One immediate outcome was a rise in the gold price, which reached unprecedented levels. During the previous 100 years the price had remained relatively stable, subject only to small fluctuations. The abolition of the fixed price ushered in a period of exceptional activity in the London gold market, attracting both newly mined and pre-owned gold sold as scrap, which consisted of second-hand jewellery and gold coin.²⁷³

The effects these changes had on business at the Royal Mint Refinery will be considered. The chapter begins by examining the performance of the Refinery staff and how they coped with the unique features of the period. In 1932 trade was brisk and the workforce was kept busy treating large consignments of gold. Once cast into 400 troy ounce bars the gold was generally offered by Rothschild for sale in the London market. Initially staff coped well with the demands placed upon them. However, the volume of work also meant that mistakes were made and allegations of fraud were brought by one customer. Material collated for use in defence against this allegation offers a rare insight into this exceptionally busy period and reveals much

²⁷²Derek H. Aldcroft, *The Inter-war Economy: Britain 1919-1939* (London: B T Batsford Ltd., 1973), pp. 278-9.

²⁷³McDonald, *The History of Johnson*, vol 2., pp. 102-4.

about the daily operation of the Refinery. These papers also provide a better understanding of internal working relations and those of Rothschild with other London refining houses and bullion brokers. The second half of the chapter charts the change in pace at the Refinery. The gold rush came to an abrupt end in 1934 when the United States introduced a new fixed price of gold of \$35 an ounce. The new price reversed the recent trend and gold shipments once destined for London diverted to American and French markets attracted by the higher prices on offer. Gold sent to the Royal Mint Refinery disappeared and Rothschild was forced to canvass for work abroad. Unfortunately refining charges at Rothschild were too high to compete with its continental rivals and needed to be adjusted if it were to attract business to London. However, the downturn proved temporary, for the inflated United States gold price also stimulated new gold exploration in East and West Africa and soon Rothschild secured new agreements to treat gold from these new emerging areas of supply.

Britain's lead in abandoning the gold standard in 1931 was not followed immediately by all countries. It was still possible to sell unlimited quantities of gold to France, the United States and a few other countries at fixed buying prices in terms of francs, dollars etc. For several months the price of gold bore more relation to the French fixed price rather than to the United States price; the situation changed after January 1934 following the introduction of the United States fixed price for gold at \$35 an ounce. Since Britain's abandonment of the gold standard the general trend for the London gold price was upwards, due to sterling's decline against other

currencies.²⁷⁴ According to Samuel Montagu's bullion review for 1931 the price of gold rose by 40 per cent above the gold currency price in the London market.²⁷⁵

Together with the fall in commodity prices since 1929, the price rise triggered new gold production as extraction costs fell. At the time of Britain's departure from the gold standard the subsequent rise in the price of gold had not been fully anticipated but gold producers and associated industries experienced an extremely profitable year in 1932 and the outlook remained favourable for 1933: the industry anticipated gold production levels for Canada and the Transvaal would exceed £90 million.²⁷⁶

In addition to increased levels of newly mined gold, the price rise also stimulated a reverse trend for gold once destined for India. Since the second half of the nineteenth century India had been a large purchaser and importer of gold from London. Gold was traditionally regarded as a good store of value for Indians and preferred over other assets. Most of the gold, together with other imports and the products of their own gold mines, went into the hoards of the princes, the business magnates and the banks.²⁷⁷ Agricultural problems in India in the late 1920s led to the reverse of trade and the tide accelerated after 1931 as profit taking began, namely the heavy dishoarding by the wealthy people of India. The return flows of gold between 1931 and 1938 were estimated to be in the region of 28 million ounces of gold, which were sold for sterling.²⁷⁸ One American banker remarked at the time that the

²⁷⁴ In 1932 the British government established the Exchange Equalisation Account, which was administered at the Bank of England. The fund was available to be used for 'checking' undue fluctuations in the exchange value of sterling.

²⁷⁵ Samuel Montagu & Co. Ltd., *Annual Bullion Review*, 1941, p. 14.

²⁷⁶ Ibid.; The production of Canada represented less than 10 per cent of the world's total production but for 1907 to 1929 it showed a fairly steady progress from £1,700,000 to £8,100,000. (See, Royal Institute of International Affairs, *The International Gold Problem* (London: Oxford University Press, 1931), p. 52.)

²⁷⁷ Green, 'Precious Heritage', p. 502.

²⁷⁸ Ibid.

sales were ‘sure proof that God is an Englishman.’²⁷⁹ In Britain members of the general public sold used gold in jewellery and coins form in such quantities as to be referred to afterwards as the ‘Gold Rush’ of 1932.²⁸⁰

In 1932 the Royal Mint Refinery possessed the greatest refining capabilities of all the London refining houses. In July the treatment capacity increased further with the installation of a new oil fuelled electrostatic precipitator. The equipment was considered ‘the first and best of its kind’ to be employed for the recovery of precious metal fume.²⁸¹ It was anticipated that the large outlay for the new equipment would be part funded by the sale of recovered metals from the old plant and increased future earnings the new machine would provided.²⁸² The outlay for the new equipment suggested that Rothschild saw a future for the refinery and had confidence in continuing the operation and they were prepared to commit a substantial sum of money. Despite a series of challenges since 1919 the outlook for the refinery was promising. The main setbacks had been being the establishment of the Rand Refinery in 1922, followed by Britain’s return to the gold standard in 1925 when the outlook of the London refining houses appeared bleak, so much so that Johnson Matthey had scrapped much of its gold refining capability, a decision the firm reversed in 1932.

²⁷⁹ McDonald, *The history of Johnson Matthey*, vo.2, p. 104

²⁸⁰ Ibid., p.103.

²⁸¹ RAL, 148/15, ‘Study into replacement of refinery equipment’, 4 Jul 1932.

²⁸² Chapter 2, pp. 36-7, discussed how profits at the Refinery were boosted with the recovery of sweeps from the annual saturnalia of burning the wooden staircases, floor and work bus in addition to particles recovered from the refinery roof and machinery.

Profits at the Royal Mint Refinery for 1932 exceeded those in previous years. In addition to fees for the treatment of gold, Rothschild also received an administrative fee to cover the sale and distribution costs for the refined gold. During busy periods these fees came under scrutiny at the Bank of England. Anthony de Rothschild, partner of N M Rothschild & Sons, defended the charges and thought them not excessive for the amount of work involved; rather he believed them to be inadequate. In his general observations on recent changes to the market Anthony wrote in an internal memorandum to Clement Cooper, head of the Bullion Department at New Court, that:

Gold is a Goddess and in this country the Bank of England is her chief priest. Since the war the Goddess has become more remote from this workaday world and her chief priest, having surrounded Her with increasing mystery and austerity, would I am sure frown on any attempt to cheapen her service. You will remember that before the war anybody could take gold to the Mint and in due course receive an equivalent amount of gold in minted sovereigns. If one did not wish to wait for 'due course' one could take the gold to the Bank of England who would forthwith deliver sovereigns there against, deducting about 1½ per cent for this facility (to cover costs of minting and interest for the period). The facility has, alas, gone but the charge of 1½ per cent remains. If the Chief Priest considers 1½ per cent a proper charge for merely handling gold, what will he think of a mere acolyte like NMR reducing their already miserable commission of ¼ per cent? I do not know who has suggested commission reductions but I am sure that if you agree it will be at the cost of offence to the Bank of England.²⁸³

Rothschild continued to receive the fixed rate, which remained unchanged until it was later abolished in 1967.

The Royal Mint Refinery was not the only venture to gain from the increased activity of 1932. In general the gold rush provided a much needed boost to the London gold refineries. Published histories of Johnson Matthey, Sheffield Smelting Company and the bullion broker Mocatta & Goldsmid all record industry wide

²⁸³ RAL, 148/12, 'Memorandum Anthony Rothschild to Clement Cooper', 2 Jan, 1932.

improvements. It was widely agreed that the gold rush marked a turning point in the fortunes of the firms. In June 1932 Johnson Matthey, in a bid to capture some of the large profits on offer, reversed their earlier decision and re-introduced the treatment of gold. A new refinery similar in size and capacity to their former operation was hastily erected. Incorporated into the new design was the most up to date refining equipment: six refining gas fires and one melting fire, with an improved production capacity of 100 bars (400 ounces each) of fine gold per 24 hours.²⁸⁴ Donald McDonald, in his history of Johnson Matthey, recalled that in 1932 ‘every part of the business was under great strain, long queues formed in the Front Office from 8 in the morning onwards and the clerks did a 12 or 14 hour day.’²⁸⁵ Ronald Wilson, in his history of the Sheffield Smelting Company, noted that the period stood out as being one in which the luck of the firm turned. He recalled the strain the company was placed under during the gold rush:

the price of gold [jumped] overnight from about four guineas to five pounds an ounce. It continued to rise to six guineas in December and thereafter to fluctuate. Quickly the public seized the opportunity of selling unwanted jewellery and great quantities were bought by retail jewellers throughout the country. Some sellers bought new goods to the value received for their old gold, some spent the proceeds other ways; either way the economy of the country benefited by this release of spending power, and it was increased by the realisation of great hoards of sovereigns, purchased for seven shillings and sixpence over their face value; similarly with half- sovereigns, two-pound and five-pound pieces.²⁸⁶

Likewise Timothy Green, in his history of Mocatta & Goldsmid, wrote that ‘Mocatta’s weighing room and vault... was crammed with transhipments [of gold]’.²⁸⁷ February and March of 1932 marked the height of the gold rush; the

²⁸⁴ McDonald, *The History of Johnson Matthey*, vo.2, p. 104.

²⁸⁵ *Ibid.*, p. 103.

²⁸⁶ Wilson, *Two Hundred Precious Metal Years*, p. 224.

²⁸⁷ Green, ‘Precious Heritage’, pp. 37-8.

catalyst was the legalisation of the sale and export of sovereigns from February 1932.²⁸⁸

Comparisons between the experiences of the 1930s and those of the first decade of the twenty-first century, following the steep rise in the price of gold in 2008, can be made. On both occasions the price rise sparked a flurry of media advertisements offering ‘Cash for Gold’.²⁸⁹ In 1932 adverts were accompanied by a growing army of doorstep callers who ‘saw great opportunities in the situation.’²⁹⁰ During the most recent renaissance for gold from 2008 an avalanche of television adverts appeared urging the general public to send unwanted items of gold through the post to national collection points. In the rush of 1932 collection points were set up in the high street by jewellers and pawnbrokers, who in turn sent parcels of gold for treatment to one of the refineries. Johnson Matthey dealt with approximately 600,000 sovereigns and over 400,000 ounces of gold in old and used form during the gold rush. Generally the daily number of parcels received was 955; during the busiest week this increased to 4,688 parcels.²⁹¹ The main problem faced at Johnson Matthey was a shortage of manpower due to a lack of available melters. The issue was resolved by drafting in senior staff, directors and pensioners of the company to weigh the incoming gold and assist in administrative tasks. Similar difficulties were reported at the Sheffield Smelting Company. The firm dealt with 8,600 parcels in March 1932; at its peak 600 parcels a day were received. The number of staff engaged in normal trading periods was 14, but in March this swelled to 50. In the first three months of 1932 Lionel

²⁸⁸ McDonald, *The History of Johnson, Matthey*, vol 2, p. 103.

²⁸⁹ *The Guardian*, ‘Banking Crisis: Investors pile into gold and bonds’, 18 Sep 2008.

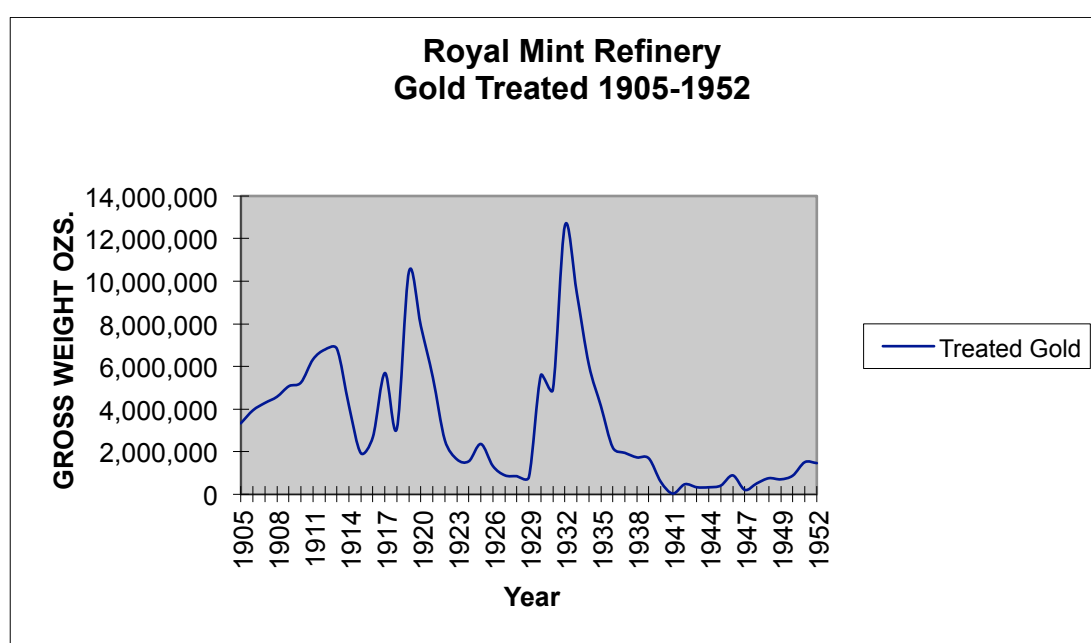
²⁹⁰ McDonald, *The History of Johnson, Matthey*, vol 2, p. 103.

²⁹¹ *Ibid.*

Readman, head of the scrap-buying department, worked 400 hours of overtime.²⁹²

Initially most of the consignments, apart from sovereigns, were sent to London and sold to the Royal Mint Refinery. However, when Rothschild increased its charges it became more profitable for the company to undertake their own refining. In order to cope with the increased volume of metal treated the old sulphuric refinery was put back into service, which worked alongside the new electro-refinery.

Table 7. RMR Treated Gold 1905-1952.



Source: RAL,148/24/3, 'RMR Silver and Gold treated from 1 Jan 1905- 31 Dec 1948'.

Company profits for 1932 were £27,182. Unfortunately, there is limited evidence about the Royal Mint Refinery during this period and precludes the same kind of details shown above. However, the chart above illustrates the sharp increase in gold treated at the Refinery. In addition company accounts record an improvement on previous years. In addition the 1932 bullion ledger show that gold bar serial numbers ran from R1 to R28076. For 1933 the number of bars produced was slightly less and

²⁹² Wilson, *Two Hundred Precious Metal Year*, p. 225.

the serial numbers ran from R1 to R21317.²⁹³ The period was exceptional in the history of the Royal Mint Refinery. The volume of business tripled. Therefore is of no surprise that mistakes were made. Whilst most were easily rectified others proved more difficult to resolve and once some semblance of normality returned to the industry Rothschild was forced to defend the reputation of the Refinery.

Once the gold rush started to subside Samuel Abelson, the senior partner at S S Abelson & Company, contacted Rothschild and reported a small discrepancy on the firm's account. The error was blamed on the exceptional busy period experienced by both firms and the strain placed on them. S S Abelson & Company was an established family firm of bullion dealers and refiners, which also manufactured platinum sheet and wire at premises in Coswell Road, London. Although Abelson's had never been a regular customer of the Royal Mint Refinery, they were known to Rothschild who had dealt with them for about ten years. During the gold rush of 1932 Abelson's were overwhelmed with the quantities of scrap gold requiring treatment. Generally Abelson's used the services of the Sheffield Smelting Company during busy periods. However in 1932 it had been too busy treating its own consignments and had no spare capacity to take Abelson's business, which was turned away. Abelson approached Rothschild for assistance and a deal was struck; a fee of 5d per ounce for melting, refining and assaying gold was agreed. The discrepancy amounted to £73.18 and Arthur Kimpton, the senior bullion dealer at New Court, offered Abelson £41 16s 9d, as a goodwill gesture, towards the discrepancy. Kimpton hoped the matter was settled. Abelson rejected his offer and the attempts to placate him failed. Further correspondence about the matter followed

²⁹³ RAL, XI/111/338, 'Bullion Ledger 1924-1936'.

and was referred to Clement Cooper, head of the Bullion Department at New Court.

Abelson wrote to Cooper that:

Frankly, I wish to forget all about the 'Gold Rush' as soon as possible. It includes all sorts of unpleasant incidents and concentrated excitement, which I personally could have done well without. I have stacks of matters still, which I have to consider and deal with before I have finished with the whole maddening affair.²⁹⁴

Despite having sympathy for Rothschild for the strain the firm had also been under, Abelson was unwilling to dismiss the outstanding monies due to him. His position was made clear when he wrote to Rothschild that the £41 16s 9d was 'a proposition that I cannot see my way clear to accept, being so certain of the facts.'²⁹⁵

Abelson's claim against Rothschild escalated further when additional discrepancies amounting to £400 were discovered. The amount related to skimmings that apparently Rothschild had not returned with consignments of gold. Abelson requested that Rothschild 'should meet me in this matter, even if I have to make some loss myself on balance, so that in the future, we can get together again to do business, for although I admit the rush is no longer with us, I am still getting lots of gold.'²⁹⁶ Rothschild rejected the request. Abelson remained undeterred and continued to make reference to the 'fair number of errors' made by Rothschild on the firm's account.²⁹⁷ The reference related to an error made on a separate occasion when a number of administrative discrepancies had been discovered. Although the errors had been rectified immediately, it transpired that an outstanding balance of £5000 initially assigned to Abelson's account should have been debited to the

²⁹⁴ RAL, XI/111/500, Claim by S S Abelson & Co., against NMR, 1931-1934, 'Letter from S S Abelson to N M Rothschild & Sons', 18 May 1932.

²⁹⁵ Ibid.

²⁹⁶ Ibid.

²⁹⁷ Ibid, 19 May 1932.

account of the Sheffield Smelting Company. Abelson's pent up feelings about his treatment by Rothschild spilled out into his next letter and reference was made to a previous encounter with Cooper. Abelson recalled that Cooper had:

charged an additional penny per ounce for giving [Abelson] an immediate cheque, which by the way, you did not have to meet until the next day, so you were out of no money, and this charge of penny per ounce works out at 23 ½ per cent. True I agreed to this charge but it was unfair.²⁹⁸

Abelson was bent on pursuing the latest matter and felt unable to 'modify [his] view' and demanded a cheque for £473 17s 12d.²⁹⁹ Rothschild remained unmoved in the rejection of the claim against the refinery. The matter reached a stalemate.

At the end of May Abelson again contacted Rothschild and informed them that further discrepancies on his account had been discovered. This time he claimed £1000, which represented the loss of 187 ounces of gold missing from a consignment of 20,000 ounces of gold, and a further 168 ounces missing from a separate consignment of 30,000 ounces. Abelson believed that Rothschild had failed to return the skimmings from both consignments. He alleged that as 'the metal was skimmed and the skimmings were thrown on the sweep heap, no allowance was made for the scrapings etc.'³⁰⁰ Once again he put the error down to the pressure during the period of the 'gold rush' and observed that:

We were all rushed off our feet in those days, and I suggest that your operator treated my gold thinking that it was your own stock. It may be suggested that the loss in weight was made up to me in improvement in the Assay. I have explored this line of thought but the results of the Assays are in my opinion worse, not better, being in the neighbourhood of .400 rather than .475 which I used to reckon on.³⁰¹

²⁹⁸ Ibid.

²⁹⁹ Ibid., 20 May 1932.

³⁰⁰ Ibid., 31 May 1932.

³⁰¹ Ibid.

Rothschild remained unmoved in their rejection of the allegations made against them. Unlike fine gold, where a loss of approximately 1 per cent of the overall weight can be expected during the treatment process, the loss in weight during refining of an assortment of scrap items was always higher. Abelson was unconvinced and although he considered himself as ‘a practical man’, with years of experience in melting metal, he had ‘never known a bar to be melted without some small loss in weight, but the losses as shown by your account, are extraordinary, and impossible.’³⁰² Skimmings from such parcels generally consisted of iron springs taken out of watch cases etc., and as a rule accompanied the treated gold when it was returned to the customer. However, according to Abelson no skimmings were returned to him and he accused Rothschild of having ‘metal belonging to me of that value.’³⁰³ He conceded that although the total value owed to him was higher he was prepared to make a loss if Rothschild would meet him on this matter so that ‘in future, we can get together again to do business, for although I admit the rush is no longer with us, I am still getting lots of gold.’³⁰⁴ Rothschild continued to deny the allegations made against the refinery.

One of the problems with Abelson’s claim was that he had not presented any formal proof in support of the amount claimed. Despite this he remained adamant that ‘you [Rothschild] are mistaken.’ Abelson readily accepted that he had recently made a number of mistakes’ himself. He suggested that Rothschild were not perfect and that ‘we all make our fair percentages of mistakes.’³⁰⁵ Abelson wrote to

³⁰² Ibid.

³⁰³ Ibid.

³⁰⁴ Ibid.

³⁰⁵ Ibid.

Rothschild admitting that ‘frankly, all sorts of figures and facts seem all wrong.’³⁰⁶

He chalked up his mistakes as ‘another sign of the abnormal times through which we were working, and now that things have settled down a bit, I desire to get these things finally settled.’³⁰⁷ Abelson was sure that ‘Rothschild would not wish to take advantage of the possible carelessness of one of their staff.’³⁰⁸

On 14 July 1932 the tone of Abelson’s letters became angrier as further discrepancies came to light. He informed Rothschild that:

[the new] discrepancies are so great between the value received from you, and the amount paid for the same. We are getting out particulars of our claim. It has taken a long time, but we are amazed at some of the things that are coming to light. There seems to be no question that we have been under-paid thousands of pounds.³⁰⁹

A few days later, having undertaken an extensive examination of the accounts, Abelson claimed that the underpayment to his company had escalated and now stood somewhere in the region of £4000-5000. He informed Rothschild that the:

crux of the position from our point of view is that owing to the extraordinary conditions of work at the Refinery, assays have come through incorrectly, fluxes have been thrown on one side, and skimmings have been ignored, and here undoubtedly, is a case where some reasonable compromise should be effected for this matter cannot be allowed to rest in its present condition.³¹⁰

Rothschild stood their ground and rebuffed all allegations made against the refinery.

At the beginning of June Rothschild launched an informal investigation into Abelson’s allegations. What puzzled staff most was the length of time it took

³⁰⁶ Ibid., ‘Letter Abelson to Cooper’, 18 May 1932.

³⁰⁷ Ibid.

³⁰⁸ Ibid., Letter ‘Abelson to Stephany, NMR’, 31 May 1932.

³⁰⁹ Ibid., 14 Jul 1932.

³¹⁰ Ibid., 18 Jul 1932.

Abelson to present his grievance. It had taken ‘two months to examine a dozen accounts’.³¹¹ Initial findings suggested that:

The fact is that these miscellaneous parcels of jewellery that were sent to us to be melted contained many articles which were only partly Gold: watches with enamel decorations, small steel springs and screws, lockets with glass and enamel, pieces of jewellery with various attachments and fittings other than Gold. This jewellery was most carefully melted, the pot being scrapped after casting and the scrapings added to the bar. The skimmings are made up chiefly of steel watch-springs and other metal fittings with a higher melting point than gold.³¹²

It was suspected that Abelson was under the misapprehension that re-melted jewellery would be of a higher quality than the assays had proved. When checked against other consignments treated at the Refinery, skimmings from Abelson’s consignments were consistent with other parcels. The general experience of other parcels of mixed jewellery was that a loss of 1 per cent on average was recorded. Therefore, the loss at only 168 ounces from the reported 30,000 ounces of jewellery Abelson had sent to the refinery was less than would have been anticipated.

Rothschild was astounded at the ‘extraordinary lack of interest in the outturn of [Abelson’s] consignments to the Refinery until nearly two months after our account sales had been in his possession.’³¹³ The general custom of the bullion trade was that in the event of a dispute over the loss of weight, or assay, on a consignment it should be raised immediately. In London it was known that the complaint must be made within two days and in the country, making allowances for posts, within four days after receiving the Account Sale. The reason for this was that gold was bought on the basis of the price on the day after delivery to the refinery. This allowed the purchaser sufficient time to refine the gold and sell the resulting fine gold bars at the same price at which he paid. The practice at Rothschild was that the sample or dip sent for

³¹¹ Ibid., ‘Notes on Abelson’s letter 31 May 1932’, 1 Jun 1932.

³¹² Ibid.

³¹³ Ibid.

assay would be kept for a period of fourteen days, and if any questions were raised as to the accuracy of the assay a retrial could then be made.³¹⁴ The seller was entitled to have the retrial made by the same assayer or nominate another. If no complaint was made within the period the reserve assay piece was, with others, refined and realised in the usual way and there was no method of checking later on the assay.³¹⁵ At no time did Abelson contact the refinery to make a complaint within the stated timeframe. For the gold bars produced for Abelson the scrap had been sent to one of the four assay firms approved by the Bank of England and an independent gold content arrived at. If Abelson had contacted the refinery earlier the bars would have certainly been retested.

Throughout the summer Rothschild continued to deny the allegations against them. It was hard for them to know how best to prepare a defence as so far it was all hearsay and no formal claim had actually been received. Rothschild concentrated on investigating three areas of practice at the refinery. The in-house report produced concluded that:

1. The conditions of work at our Refinery are indeed extraordinary, in the sense that they are perfect and unchallengeable.
2. The correctness of assays, carried out by official assayers to the Bank of England, is indisputable.
3. The scrupulously careful treatment, to which all fluxes and skimmings are subjected, leaves no question of doubt as to the inclusion of their exact values.³¹⁶

The matter lay dormant on file until information gathering resumed in November.

This time guidelines and procedures to be adopted in the event of a dispute arising in the future between a customer and the refinery were circulated to members of staff.

³¹⁴ Ibid., 'Memorandum Refinery', 21 Jul 1932.

³¹⁵ Ibid.

³¹⁶ Ibid.

In addition to in-house enquiries outside support was canvassed by Rothschild in an attempt to collate and compare treatment records with other refiners. Johnson Matthey and Sheffield Smelting Company were approached to find out if either had undertaken any work for Abelson or received similar complaints from their own customers. In addition the bullion brokers Mocatta and Goldsmid, for whom Rothschild had undertaken some of the melting work for Abelson, were approached to establish if they had received any complaint about Rothschild's work from Abelson. A number of assayers, in particular Daniel C Griffiths & Company, which had completed the assays on the Abelson consignments, were contacted to establish if in their opinion pieces treated on behalf of Rothschild were 'well-melted and homogeneous bars'.³¹⁷ A request was made to see if any of the assayers would provide evidence of 'good' melting at the Royal Mint Refinery.³¹⁸

Support for Rothschild was split. Handwritten notes made by members of staff at the Refinery record the responses. Against Johnson Matthey, the main competitor of the Royal Mint Refinery, it was recorded that the Matthey 'obviously disliked Abelson' and thought him 'mad if he actually took matter to court'.³¹⁹ The bullion brokers Mocatta and Goldsmid, who were in a difficult position as Abelson had been a client of the firm for some time, sided with Abelson. Mocatta believed the 'matter was one for settlement' and thought that '[Abelson] had probably legitimate ground for grievance whether he could substantiate it or not'.³²⁰ Rothschild recorded that 'Edgar had a soft corner in his heart for Abelson, although he was admittedly a bit of

³¹⁷ Ibid.

³¹⁸ Ibid., Memorandum 'Suggested Procedure', 17 Nov 1932.

³¹⁹ Ibid., 'Notes' undated.

³²⁰ Ibid.

a nuisance.³²¹ Mocatta implied that scrapings from pots on their own consignments had not always been forthcoming, implying that ‘R’s employees scraped quantities of gold from the bottom of the pot!’ Rothschild had been ‘rather appalled’ by the suggestion and asked Edgar Mocatta what he thought happened with the gold? When challenged ‘he pretended he had not made the suggestion seriously’.³²² As Abelson was also a customer of Mocatta, who had also sent some scrap on behalf of Abelson to Rothschild it transpired that it may well have been down to Mocatta to instigate proceedings against the Refinery for any outstanding monies.³²³ Finally representatives of the Sheffield Smelting Company, Morton and Legg, observed that when discrepancies had arisen in the past with the Royal Mint Refinery it had been customary that once the assay had been checked an average would be agreed between both firms. Their relationship with Abelson was regarded as satisfactory. The ‘notes’ recorded that ‘Legg is obviously friendly disposed towards Abelson.’³²⁴ Morton, despite having experienced losses for consignments of jewellery, confirmed that he had been happy with the work of the Royal Mint Refinery. It was also disclosed that Morton had received an approach from J J Edwards & Co., Abelson’s legal representatives, to act as a witness for the prosecution, a request he chose to decline. When pressed on the matter it transpired that Morton had ‘possibly in the heat of the moment’ made some damaging remarks to Abelson about the Royal Mint Refinery ‘and [was] most anxious not to have to repeat them in the witness box.’³²⁵

In late November Abelson finally instituted formal proceedings against the Royal Mint Refinery. Three allegations against Rothschild were listed:

³²¹ Ibid.

³²² Ibid.

³²³ Ibid.

³²⁴ Ibid.

³²⁵ Ibid.

1. Owing to carelessness and lack of skill in melting there was unnecessary loss of weight after melting (gold bars of whatever fineness should lose nothing in melting and jewellery of whatever quality should not lose more than ¼%)
2. Pot scrapings and skimmings have not been accounted for.
3. All gold has been so badly melted that the dip pieces sent to the Assayers do not correctly represent the quality of the gold.³²⁶

The matter was referred to Freshfields Solicitors, who generally acted on behalf of N M Rothschild & Sons. The line of defence taken centred on the general practice in the refining industry, in particular how ‘skimmings’ were dealt with at the refinery. It also transpired, during their own investigations, that Rothschild had made an overpayment in favour of Abelson’s firm of £700.³²⁷

Mr Henderson, an independent expert in the practice of refining, was asked by Freshfields to draw up a report on the treatment practice at the Royal Mint Refinery. Following his visit to the Refinery he concluded that:

The entire operation has been carried out with meticulous accuracy sufficiently often to satisfy the experts at the Refinery that in the case of standard parcels, i.e. gold articles from which base metals (watch movements etc.) have been extracted with reasonable care, the loss in melting will represent approximately 1 per cent of the gross weight.³²⁸

However, the demonstration provided to Henderson was not an accurate reflection of the working practice adopted for the period in question. For the actual procedure carried out at the refinery during the height of the gold rush had been altered to cope with the high demands placed upon staff, including the fact that the Chief Clerk had taken over some of the Manager’s responsibilities.³²⁹ Freshfields findings concluded that the allegations made by Abelson against the Refinery of fraud and carelessness

³²⁶ Ibid., ‘Memorandum Claim to be met’, 21 Nov 1932.

³²⁷ Ibid., ‘Memorandum of errors’, 24 Nov 1932.

³²⁸ Ibid., ‘Memorandum’, 5 Dec 1932.

³²⁹ Ibid.

had no basis, and as they were unsupported by specific data or evidence the case should be passed over.

Abelson was not of the same sentiment, and appealed to Legge, Manager of the Sheffield Smelting Company, to assist him to bring the matter to a speedy conclusion. Abelson in his letter to Legge wrote:

Pledging my honour that it is a fact that Rothschilds have had delivered to them gold far in excess that they have paid me for, but, of course, without their knowledge. I feel certain that the heads of Rothschilds would not want to take advantage of the fact that through accidents and over rushing certain mistakes have occurred to their benefit.³³⁰

In the background Abelson was under pressure from his own legal team to furnish them with copies of invoices in support of the claim. Sir Patrick Hastings, a barrister who generally worked on high profile legal cases, had been engaged to pursue the claim against Rothschild. Abelson failed to provide the supporting evidence. It transpired that Abelson was of the opinion that Rothschild ‘in common fairness’ should offer a ‘compromise along reasonable lines... and not a flat refusal of all discussions as if I were a criminal asking for a pound of flesh to which I was not entitled.’³³¹ Legge urged Abelson to stop his pursuit of the matter through the courts but Abelson was adamant that his solicitor and counsel were confident that they would win the case against Rothschild and that ‘’tis merely a question of how much.’³³² Abelson hoped that an ‘honourable and reasonable solution’ would be arrived at without need for the matter ending up in front of a judge. He was quietly confident that Rothschild would try to avoid the courts for ‘they have had their faces

³³⁰ Ibid., ‘Letter Abelson to Legge, Sheffield Smelting Co. Ltd.’, 3 Jan 1933.

³³¹ Ibid.

³³² Ibid.

smacked twice in this matter they cannot see their way clear to take another chance.³³³

On 27 February 1933 Rothschild launched a counter claim to recover the £700 overpayment made to Abelson. Attached to the claim were a statement in support prepared by Cooper and a witness statement provided by an experienced refiner employed by Johnson Matthey who came down in support of Rothschild.³³⁴ It took one week for Abelson's solicitors to contact Freshfields with a notice of discontinuance of proceedings against Rothschild. Abelson dropped all allegations and had finally taken the advice offered by Edgar Mocatta and Morton; both had interested themselves in the matter.³³⁵ In the meantime Mocatta and Morton had visited Rothschild and attempted to resolve the matter amicably. They had been anxious to justify Abelson's actions. Both felt that Rothschild had 'adopted a rather superior attitude and gave no indications of being amenable to anything but irrefutable facts' they wanted Rothschild to be aware of 'extenuating circumstances for Abelson's behaviour' and urged them to drop the claim for £700.³³⁶ It transpired that if Rothschild were to pursue a counterclaim against Abelson, then he would have no alternative but to declare his firm bankrupt. If this happened it meant dire consequences for the Sheffield Smelting Company as Abelson owed the firm an outstanding debt of £1,500, the remnants of a larger debt of £6,000. Mocatta appealed to Rothschild for lenience towards Abelson so that the matter could be abandoned amicably by both parties. Rothschild agreed, but only as abandonment

³³³ Ibid.

³³⁴ Ibid., 27 Feb 1933.

³³⁵ Ibid., 'Edwards, Leese & Munns, to Freshfields Solicitors', 9 Mar 1933.

³³⁶ Ibid., Notes referring to visit by Edgar Mocatta and Mr Morton to New Court, 13 Mar 1932.

would indirectly help the Sheffield Smelting Company and plans was devised for both parties to abandon their claims.³³⁷

Following the end of his claim Abelson's solicitors wrote again to Freshfields and expressed their client's regret at having brought a claim against Rothschild, stating that:

our client's one desire is to be able to look upon the matter as one of past unfortunate history and he instructs us to give you his assurance that so far as he is concerned he has no intention of referring to it in the future in any way to any of his customers, business acquaintances, or at all.³³⁸

Rothschild's out of pocket expenses to defend the initial action came to £466.16.4d, and had the counter-claim for £700 been pursued an additional fee of £300 would have been charged. However, the stakes had been much higher for the reputation of the Royal Mint Refinery had been at risk.

Lessons were learnt from the experience at the Refinery. On reflection warning bells had sounded but were not heeded at Rothschild on Abelson's first approach. The Sheffield Smelting Company had normally dealt with Abelson's melting, but had been too busy with their consignments. No objection was made for Abelson to move to Rothschild. The profit on Abelson's business for Rothschild was insignificant and work had been undertaken mainly to oblige Abelson, and to relieve the pressure for other firms. In normal circumstances Rothschild steered away from dealing with retail trade business. Generally work originated from the banks or

³³⁷ Ibid.

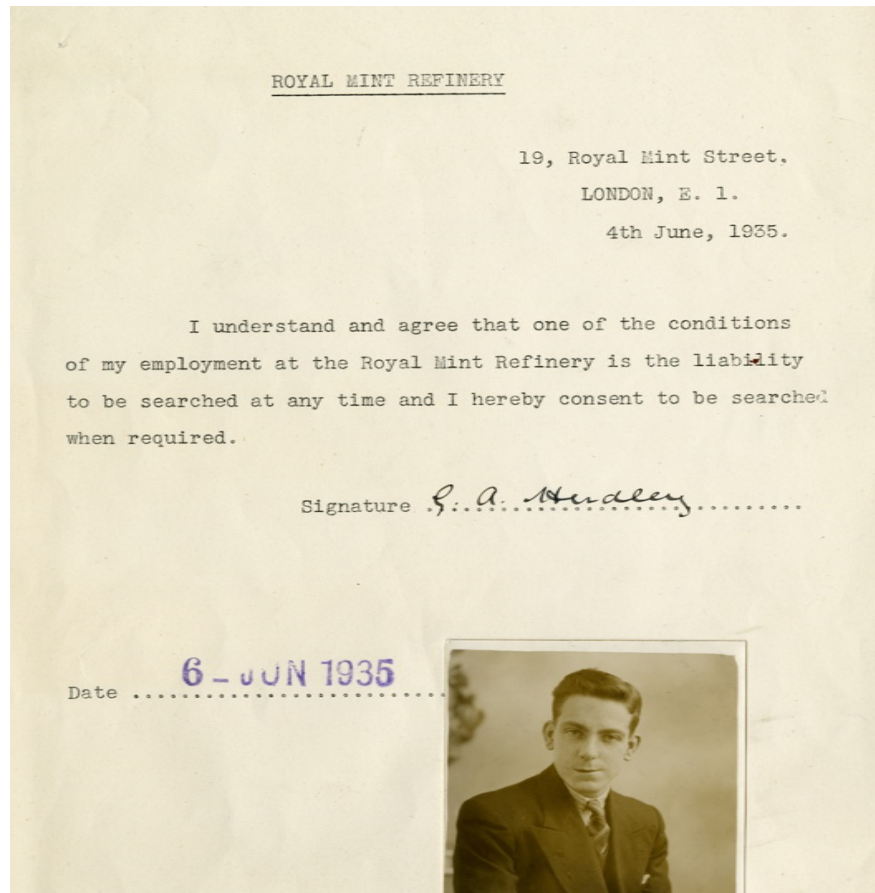
³³⁸ Ibid., 'Edwards, Leese & Munns, to Freshfields Solicitors', 8 Jul 1933.

bullion brokers and one or two private firms. During March 1932 considerable quantities were received from these quarters without incident.

In October 1933 an internal report into the ‘Suggested ways in which the procedure adopted by the Royal Mint Refinery might be improved’ was produced. The report reviewed working practices at the refinery and identified a number of areas for improvement: distributing a notice to all customers stating standard charges, general tariffs and terms and conditions of business, the introduction of receipts for all clients presenting bullion for treatment, clear recording and adjusting of consignment weights after melting, improved recording of experiments, records of bullion losses to be kept and reference made to them, improved recording of weighing consignments including first weight, and final weight after melting including adjustments for pot scrapings and skimmings, and all assay results to be copied and kept with sale accounts. In addition a number of staff issues were dealt with; duties and responsibility for each member of staff were more clearly defined, and more importantly security at the refinery was increased and record cards for all employees, including a photograph, were introduced (see below example below for G Hendley)³³⁹ This last practice continued right up to the sale of the refinery in 1967. The declaration signed by all employees at the refinery was updated and a clause added giving consent to be physically searched at any time. The informality and casual basis of management at the refinery had eroded as formal procedures were introduced.

³³⁹ George Hendley joined the Royal Mint Refinery aged 20 in 1934 and worked at the Refinery for the next 35 years. He retired in 1968 aged 55 and died in 1988. George was survived by his wife, Blodwin, who until her death in 2007, at the age of 92, was in receipt of a widow’s pension from Rothschild.

Figure 9. 'RMR: Example of Employee declaration, 1935'³⁴⁰



The pressure on the Royal Mint Refinery began to ease as the 'Gold Rush' subsided. The Refinery ticked over with the profitable trade from India. Between 1932 and 1935 there was a steady flow of gold from India back to London. Price was the main factor in the return flow but widespread famine in India also contributed to the large amounts of gold shipped to London from Bombay.³⁴¹ It was one shipment of Indian gold received at the Royal Mint Refinery that was featured in *The Times* special supplement the 'Gold Number' (discussed in chapter 2). The special editorial

³⁴⁰ RAL, 000/1763, George Hendley staff record.

³⁴¹ Traditionally India imported large quantities of gold it was regarded as a good store of value and preferred to any other asset. Agricultural problems in the late 1920s led to the dishoarding of gold and large shipments left India bound for the London market. The trend continued into the 1930s accelerating after 1931 and regular consignments continued until the London gold market closed on the outbreak of war in 1939. Source: Green, 'Precious Heritage', pp. 499-500.

covered the various aspects of the gold industry and provided an in-depth examination of gold in the British Empire and dominions.³⁴² It included features on gold exploration, finance, transportation, trade uses, advances in production levels and refining techniques and the sale of gold. The *Gold Number* highlighted Britain's association with gold through the ages and acted as a reminder of the importance of the City of London as a financial hub, which at that point still remained central to the international economy.

The articles featured in the *Gold Number* projected Britain in a positive and supportive role with gold producers around the globe. The United States gold industry was not overlooked and the articles included one about American gold mining. Readers were reminded that production levels in the US had peaked by 1915 at a maximum output of 4,887,604 fine ounces and that by 1927 the figure had decreased to around 2,100,000 fine ounces.³⁴³ Cost was the key factor behind the decline. The majority of gold mined in the United States was low-grade ore, which meant that extraction costs had to be balanced against and the market price of gold. At \$20.67 an ounce for gold in 1932 there was little incentive to increase production levels.

The production of the special editorial coincided with the arrival in Britain of over a thousand delegates from sixty countries gathered in London for the World Economic Conference starting on 12 June.³⁴⁴ Discussions at the conference centred

³⁴² 'Gold', *The Times*, 20 Jun 1933.

³⁴³ Ibid.

³⁴⁴ Barry Eichengreen, *Golden Fetters: the gold standard and the Great Depression 1919-1939* (New York: Oxford University Press, 1995), p. 317.

on measures to fight global depression and revive and stabilise international currency rates. In the months leading up to the event international media interest in gold increased. This intensified when in March a moratorium was declared in New York and foreign exchange dealings were suspended for 10 days.³⁴⁵ An embargo was introduced by the US authorities on all banking transaction including the export of gold. In April President Roosevelt issued the executive order ratifying the embargo, although gold exports continued to be permitted by licence. The decision to prohibit the export of gold had been an unexpected turn of events and subsequent legislation made it a criminal offence, with severe penalties attached, for any American citizen to hold more than \$100 in gold coin or certificates after 1 May 1933.³⁴⁶ The suspension lasted until 1975.

According to Christopher Price the move was ‘perceived as a struggle for supremacy between the pound and the dollar.’³⁴⁷ In January 1933, when Franklin D Roosevelt was inaugurated as President of the United States of America, he inherited a bitter legacy: severe unemployment, bank failures and falling prices. In a bid to overcome these difficulties Roosevelt set a course aimed to re-inflate the economy. He planned to raise prices and increase the money supply in an effort to improve confidence, get business moving and create jobs. Roosevelt expressed his fears for the economy during the first inaugural address in March 1933 that ‘happiness lies not in the mere possession of money; it lies in the joy of achievement, in the thrill of creative effort.’³⁴⁸ The following week he set his plan into action and suspended the

³⁴⁵ Ibid. p. 326.

³⁴⁶ *The Bankers Magazine*, June 1933, p. 530.

³⁴⁷ Christopher Price, *Britain, America and Rearmament in the 1930s* (Basingstoke: Palgrave, 2001), p. 32.

³⁴⁸ B.D. Zevin, (ed.). *Nothing to Fear, the selected addresses of Franklin Delano Roosevelt 1932-1945* (London: Hodder & Stoughton Ltd, 1945), p. 27.

gold standard so that domestic policies could be implemented without the constraints imposed and at the same time banned citizens from owning gold. Roosevelt feared that if inflation struck, it would lead to a decline in the exchange value of the dollar and cause an outflow of gold.³⁴⁹

Roosevelt's advisors looked at historical trends in the gold price over the previous century as part of their efforts to find a solution to the country's economic problems. They observed a direct correlation between periods of increased economic activity and a price rise against sudden surges in gold supplies; triggers appeared around the gold discoveries of California and Australia in the 1840s and 1850s, and South Africa in the 1880s. Unfortunately in 1933 world gold production was relatively static, and had been for the previous decade. Therefore the only alternative was to raise the gold price, which in turn would increase the value of existing stocks and thus enhanced the basis of the money supply.³⁵⁰ During the autumn of 1933 the price of gold increased from the old base rate of \$20.67. Arthur M. Schlesinger Jr. described how Roosevelt, over breakfast, set the price:

While Roosevelt ate his eggs and drank his coffee, the group discussed what the day's price was to be. The precise figure each day was less important than the encouragement of a general upward trend. One day Morgenthau came in, more worried than usual, and suggested an increase from 19 to 22 cents. Roosevelt took one look at Morgenthau's anxious face and proposed 21 cents. 'It's a lucky number,' he said with a laugh, 'because it's three times seven'.³⁵¹

Mocatta & Goldsmid annual circular for 1934 observed that such tactics seemed irrelevant to some professionals in the gold market, noting that they were 'purely

³⁴⁹ *The Bankers Magazine*, Jun 1933, p. 530.

³⁵⁰ Green, 'Precious Heritage', pp. 502-3.

³⁵¹ Green, *The World of Gold Today*, pp. 49-50.

sentimental'.³⁵² On 31 January 1934 a final rise took place and the new fixed price of \$35 an ounce for gold was announced, as was the return of the United States to an international gold standard. A further announcement was made that the Assay office would take 'any and all gold tendered in acceptable bars at the new fixed rate of \$35 an ounce' in addition it 'would sell gold, if the export point was reached, to foreign central banks of countries still on the gold standard.'³⁵³ France, Holland, Belgium, Italy and Poland made up what became known as the gold bloc and benefitted from the new ruling.³⁵⁴ Switzerland, although on the gold standard, was excluded due to some restrictions that disqualified them. Tim Green observed that 'at first the London gold market was not quite sure the Americans really meant what they said. An open offer of \$35 an ounce for gold sounded too good to be true.'³⁵⁵ The increased price meant that gold bought in London and sent to the US would generate a profit of more than 3s per ounce.

The London brokers took advantage of the profits on offer and sent enormous shipments of gold across the Atlantic. Rothschild during this period bought, and shipped to New York, nearly a million ounces of gold. The premium varied from between 2s 6d and 2s per ounce.³⁵⁶ Mocatta & Goldsmid estimated that in the first month after the dollar increased the Bank of France lost over £40 million of gold.³⁵⁷ One result following large movements of gold in 1934 was the creation of an international London Good Delivery List. This was a hastily compiled list of twenty approved refineries and mints in eight countries together with specifications for

³⁵² Green, 'Precious Hertiage', p. 503.

³⁵³ Ibid.

³⁵⁴ Ibid.

³⁵⁵ Ibid., p. 505.

³⁵⁶ RAL, XI/35/64, 'Memorandum on the Gold Market, 1937'.

³⁵⁷ Green, 'Precious Heritage', p. 506.

universally acceptable bars produced after discussions between representative of the Bank of England and London gold market. Green noted that ‘the agreement was an achievement for London, clearly establishing its market, offering a unique brand for high-quality bar gold. This 1934 list was a landmark in the market’s evolution.’³⁵⁸ An extended list was produced in 1936 and the number of refineries extended to 28. Two of the British refineries no longer in operation were included as the bars produced by them continued to be in circulation.

Throughout the 1930s, generally speaking, the flow of gold was to the USA. Between 1934 and 1938 the flow was at its height and United States reserves rose from \$4 billion to \$13 billion.³⁵⁹ In 1935 Fort Knox in Kentucky was built to house the inflated reserves.³⁶⁰ By 1937 rumours spread that the United States authorities were concerned about the rapid rise in commodity prices and also the vast quantity of gold attracted. Panic ensued as reports spread that the administration was considering revaluing as opposed to devaluing the dollar. In April and May the mere suggestion that the gold price might move to the old statutory price of \$20.67 saw a large proportion of hoarders’ stocks of gold for sale on the London market. Due to the uncertainty of the New York gold price the only buyer was the Bank of England, which took all supplies offered at a reasonable discount that it was able to fix. It was not long before the tide turned again. With a fall in the price of commodities and the continued depreciation in the French franc, confidence in gold, or rather lack of confidence in currencies, tempted hoarders to replenish their stocks.³⁶¹

³⁵⁸ Green, *The History of the London Good Delivery*, p. 10.

³⁵⁹ Green, ‘Precious Heritage’, p. 506.

³⁶⁰ Ibid.

³⁶¹ Ibid., p. 505.

Traditionally consignments of gold were transported by sea. Insurance marine underwriters promoted the ideal mode of transport as ‘the fast mail and passenger liner fitted with a strong bullion room and belonging to a nationality and ownership which [enjoyed] the highest reputation for safe navigation’.³⁶² This continued to be the best mode of transport for destinations such as Africa and United States but from the mid-1920s air transport was favoured for transporting gold between London and continental Europe. According to Rothschild refinery records the first consignment of bars was dispatched by air to Belgium in 1926, insured for £100,000. The use of air transport continued to rise. In 1931 air services between London and Paris were overwhelmed with the volume of gold being airlifted. It was recalled that:

The ordinary passenger and mail services proved quite inadequate to meet the demand for air transport, and for weeks passenger machines were converted into freight carriers and extra aeroplanes were dispatched – usually in the very early hours of the morning.³⁶³

Initially £500,000 was the maximum consignment that could be sent by air, which increased to £750,000 with the advent of larger and more powerful aircraft.³⁶⁴

During this exceptionally busy period passengers travelling with Imperial Airways were unaware of the precious cargo on board. Green described how ‘the passengers all sat in wicker chairs tied to the floor of the plane... and the coin boxes were tucked under the seats. No one had any idea they were sitting on a fortune’.³⁶⁵

Advances in the aviation industry also speeded up the development of new gold fields in East and West Africa. The London refiners turned to these new areas of development in search of new sources of gold requiring treatment as native refineries

³⁶² ‘Gold’, *The Times*, p. 206.

³⁶³ *Ibid.*, p. 142.

³⁶⁴ *Ibid.*

³⁶⁵ Green, ‘Precious Heritage’, pp. 511-2.

had yet to be erected. In particular focus centred upon the rapidly developing British East African Colony of Kenya and the Mandated Territory of Tanganyika. An early prospectus informed the potential investor that following the recent rise in the gold price ‘many mines formerly considered unpayable, owing to the low grade of the ore, now became attractive propositions’.³⁶⁶ For the first time in years it became easier to attract investment for the gold industry and raise capital in large quantities. In addition to the economic rewards on offer the prospectus highlighted improved infrastructures across the continent that led to better communication and transport links, contributing much to the development of these new areas of production. In particular, advances in the aviation industry enabled surveys of previously uncharted territories to be made as new aerodromes sprang up. Equipment and labour could be airlifted into areas with no existing infrastructure. Only once the goldfield proved successful would road links need to be constructed to main branch line railways and aerodromes, which obviously kept investment costs to a minimum. The pamphlet listed the advantages of investing in the developing goldfields and the high returns on offer. In 1937 Rothschild, in anticipation of a return of newly mined gold to the Royal Mint Refinery, planned an overhaul of its operation and also expanded the range of activities produced at the Refinery. The improvements were funded with profits generated during the gold rush of the early thirties. The Royal Mint Refinery was about to enter a new era.

In conclusion, Rothschild benefitted from Britain’s departure of the gold standard and the subsequent rise in the gold price. The ‘Gold Rush’ of 1932 was highly profitable and profits generated were reinvested in new equipment and an upgrade to

³⁶⁶ Promotional brochure, *Gold in East Africa*, May 1935.

the property. When allegations over fraud were made Rothschild stood its ground and denied any wrong doing. Support for Rothschild was split. However, the claim was eventually withdrawn and the only loss was the payment of legal costs to defend the reputation of the venture. Correspondence reveals much about the day to day operation and also illuminates inter-working relations amongst the refineries and brokers.

Business at the refinery remained brisk. Whilst there was a small downturn in gold sent to London for treatment when the dollar price increased and fixed at \$35 an ounce. Rothschild continued to profit as it made commission on gold bars sent to be sold in New York. Eventually the inflated dollar price stimulated new discoveries of gold in West and East Africa and it was these rising markets and new outlets of gold production that Rothschild concentrated on attracting to London to be treated by the Royal Mint Refinery.

Chapter 6

The Shadow and Impact of World War 2, 1937-1944

This chapter examines the impact World War 2 had on business at the Royal Mint Refinery. In 1937 the introduction of Rolling Plant extended the range of products manufactured by the venture. Faced with the prospect of war, treatment of gold and silver at the Refinery reduced and gave way to the production of munitions. As the demand for munitions increased so the scale and pace of work intensified. It was up to Rothschild to ensure its workforce remained on task and motivated. The precarious location of the Refinery on the edge of the City close to the docks meant once enemy air attacks on London began work was frequently interrupted. The decision was made, with financial assistance from the Ministry of Aircraft Production, to establish a shadow factory at Tring. In 1941 the bulk of the operation and workforce transferred to the new site at Tring and for the remainder of the war and operated in the relative safety of the Buckinghamshire countryside. In London, a small workforce remained at the Refinery that dealt with small amounts of gold for industrial use, and later in 1943 produced small gold bars for export under special licence on behalf of the Bank of England. The period under review ends in 1944 as Rothschild faced the problems of readjustment in the post-war era.

The chapter is structured as follows: first the position of the Refinery in 1937 will be discussed. Second, how the business adapted and coped with the demands of war will be examined. Finally, on the outbreak of war the core activity at the Refinery, gold, was placed under government control and restrictive movements imposed. The effects this had on the venture will be considered. A study of the Refinery during the

Second World War highlights the challenges faced by the Royal Mint Refinery and the contributions it made. In answering the call for arms, working practices, methods and management styles required adjustment. In a survey of the home front it was observed that ‘industry responded. The mighty industrial workshop began to work at full speed.’³⁶⁷ In addition the strength of the response from British civilians grew day by day as the workforce ‘built ships, they made munitions, tanks, aeroplanes and cloth... they toiled long, denying themselves leisure and many of life’s little luxuries.’³⁶⁸ All areas of people’s lives changed as they were exposed to enemy attack and became firemen and fire-watchers, Home Guards and rescue workers. Examples of these experiences of war are found in the history of workers at the Refinery. Also illuminated by the account of the Refinery in war is Britain’s changed relationship and diminished access to gold produced in South Africa, which in the post-war period had significant implications at the Royal Mint Refinery.

In 1937 the management of the business had changed very little since the death of Charles in 1923. Overall control of N M Rothschild & Sons remained in the hands of Lionel and his younger brother Anthony. Victor, son of Charles and cousin of Lionel and Anthony, joined the merchant bank briefly before taking up a position on Winston Churchill’s staff in 1939. Victor had a passion for scientific research and following the death of his uncle Walter 2nd Lord Rothschild, he inherited the title, a fortune, and Tring Park Estate. He had entered the Bank at the insistence of his mother, Rozsika, on a trial basis.³⁶⁹ One of the first tasks assigned to him was to

³⁶⁷ Anon, *Ourselves in Wartime* (London: Odhams Press, 1944), p. 15.

³⁶⁸ Ibid., p. 12.

³⁶⁹ According to Rose’s biography of Victor, *Elusive Rothschild*, it was Victor’s mother Rozsika that pushed her son towards a career at the Bank. His father Charles (1877-1923), during his time as partner of the Bank (1915-1923), had taken a keen interest in the daily operation of the Refinery until his tragic death. It was hoped that the scientific nature of the enterprise would interest Victor. Rose

produce a survey of how best the Royal Mint Refinery might contribute to future war efforts in the manufacture of munitions and metallic industrial products. Victor in his review considered the economic position of the business as it stood in 1937, and subsequently raised a number of concerns with Lionel and Anthony about its continued viability. By 1938 treatment levels of gold had fallen to less than 1.8 million ounces of gold and 7.8 million ounces of silver.³⁷⁰ Victor observed that the Refinery struggled to keep up with the firm's main competitor Johnson Matthey, despite the recent injection of capital used to upgrade the building and equipment. Johnson Matthey streamlined its operation, to meet the requirements of a changed world in which the firm specialised in chemical and metallurgy methods of the 1920s and early 1930s, and concentrated its efforts in the treatment of platinum and liquid gold.³⁷¹ Johnson Matthey took advantage of cheap short-term finance to grow the business; part of the expansion included a purpose-built five-storey property to house refining plant and increased investment in its laboratories as it became deeply involved in the chemical trade.³⁷²

Rothschild partners were aware of the growing gap in treatment levels between the two refineries. Anthony had even tried to disguise the growing division and found it necessary to withhold certain information about the refining capabilities of

remarked that Victor 'found it boring and depressing'. Victor only served briefly for on the outbreak of war he became a counter-sabotage officer of the British War Office. In recognition of his service he received both the George Medal, for dangerous work in hazardous circumstances, and the US Legion of Merit in recognition of his valuable contribution to the success of the United Nations and an enduring achievement in the high cause of Anglo-American co-operation. He was described as being 'one of the world's greatest experts in military intelligence'. Victor's aversion to banking meant that he did not return to the Bank instead he pursued a glittering academic career as Head of the Think Tank, only returning to the bank by invitation as chairman in the mid-seventies for a short period. Stepping down he observed that 'the pace is too hot for someone of my age.' Eventually he returned to N M Rothschild & Sons in 1975 and remained at New Court for a further twelve years.

³⁷⁰ RAL, 148/20, 'Silver & Gold Treated from 1 Jan 1905 to 31 Dec 1944', 19 Oct 1945.

³⁷¹ McDonald and Smyrk, *The History of Johnson Matthey*, vol 3, p. 10.

³⁷² *Ibid.*, p. 50.

Rothschild from Johnson Matthey, so as not to renege on the silver treatment agreement (discussed in chapter 2) between the two refineries. Anthony wrote that at the time 'RMR could not produce an equal output and if we admitted the inability it would have been disastrous for the future division of business.'³⁷³ Under the circumstances Anthony felt he had no alternative but to agree to the higher limits requested by Johnson Matthey, which the Royal Mint Refinery was incapable of producing. Anthony, when explaining his logic to Victor, wrote:

I cannot help feeling that you will think it somewhat Irish or peculiar first of all to make a definite offer to produce a certain amount of fine silver per week and then afterwards to set to work to find out if and how one can do it. But this is the way things happen at New Court, perhaps also elsewhere.³⁷⁴

One solution that would increase treatment levels was Sunday working. It was estimated that a 30 per cent drop in output occurred if the plant was stopped for the weekend.³⁷⁵ Anthony was against Sunday working and was of the opinion that 'continuous working over the weekend for a long period of time is undesirable.'³⁷⁶ Arthur Kimpton, general manager at Rothschild, suggested that it might be possible to arrange shifts so that the men could take it in turns to have a full day off during the week, which meant the plant could be kept going. The possibility of Sunday working did not sit well with Stanley Smith, the newly appointed manager of the Refinery following the retirement of George Buess (manager 1919-1937), and Smith immediately set out to find a resolution for the potential problem.³⁷⁷ Smith's solution was additional machinery to be erected at the Refinery to cope with the increased demand. The cost was estimated at £500 and in order to avoid a nine month delay

³⁷³ RAL, XI/111/870, Lord Rothschild (Refinery) 1937-1938, 'Anthony to Victor', referring to practices at the Royal Mint Refinery, 21 Oct 1937.

³⁷⁴ Ibid.

³⁷⁵ Ibid.

³⁷⁶ Ibid.

³⁷⁷ Ibid.

was payable immediately.³⁷⁸ Anthony's response recorded that 'I am not keen on increasing the capital put into the refinery unless there is an exceedingly good return for it. I have been looking through the refinery accounts for the year and they are somewhat depressing.'³⁷⁹ The lack of enthusiasm to invest in the refinery reflected the static position of the business. The accounts showed that profits had dwindled from previous years and the immediate future looked bleak. As it transpired the additional work failed to materialise, so the treatment capability of the refinery was not tested and no additional outlay was made as Rothschild received a warning from Johnson Matthey that the deal might collapse. But what is highlighted by the episode is that the Rothschild operation had failed to keep pace with the Johnson Matthey enterprise, which during the previous two decades had invested and increased their market share.

Rothschild made some investments and improvements at the Royal Mint Refinery. The upgrade of the building, facilities and equipment in the 1930s had been one of the last tasks performed by Buess in his role as manager. Smith had been appointed manager shortly after completion. One of the early concerns raised by Smith had been over health and safety procedures at the Refinery, in particular working hours and protective clothing and masks. Arthur McIvor in research into British working conditions, occupation and health noted that after 1918 ideas from work studies filtered through to industry and 'Welfarist' employers tended to improve conditions to 'best practice', although the majority only provided a basic minimum standard.³⁸⁰ McIvor highlighted evidence that 'workers, managers and

³⁷⁸ Ibid.

³⁷⁹ Ibid., 12 Nov 1937.

³⁸⁰ Arthur J McIvor, *A History of Work in Britain, 1880-1950* (Hampshire: Palgrave, 2001), p. 135.

employers became more aware of the interrelationship between occupation and health and from such consciousness evolved self-help and collective strategies to minimise risk'.³⁸¹ Smith's promotion of health and safety measures coincided with the introduction of the Factory Act 1937. The Act legalised the maximum 48-hour working week, regulated permissible overtime to a maximum of six hours per week, introduced rest pauses and guidelines on weight carrying, extended medical inspection and made the provision of washing, seating and cloakroom facilities compulsory in all factories.³⁸² Much of the required compulsory facilities had already been incorporated into the upgrade at the premises. Bathing and catering facilities had undergone extensive modernisation (see below).

Figure 10. 'RMR Canteen Kitchen and Bathroom'³⁸³



McIvor emphasised that 'a wide gulf could exist between legislative provision and actual work practice.'³⁸⁴ Smith's concern became a reality shortly before the start date of the new legislation when an employee was severely injured whilst working on one of the guillotine machines. An internal investigation into existing

³⁸¹ Ibid, p. 133.

³⁸² Ibid, p. 135.

³⁸³ RAL, 000/848/10/1, RMR 'Still Life' Photographs of RMR, Canteen Kitchen and Bathroom.

³⁸⁴ McIvor, *A History of Work in Britain*, p. 151.

measures at the refinery resulted in a more comprehensive induction for staff being implemented and regular checking of machinery being carried out.³⁸⁵ This event, together with Smith's appointment, prompted a reorganisation at the Refinery and a definitive chain of command was introduced. Ken Belcher became Smith's assistant, and Smith was also encouraged to draw on the knowledge and experience of Bill Williams and Arthur Kimpton, and Fred Dowe continued to take charge of the scale room, clerical work and the payment of wages.³⁸⁶ Under the terms of Smith's engagement it was up to him to ensure Partners were kept fully updated on all matters concerning the daily operation of the Refinery; copies of all letters had to be forwarded to them at New Court and purchases were to be made by Kimpton. The hiring and firing of staff had to be approved by the Partners but small pay increases were to be at the manager's discretion. How the Refinery fitted into the overall business portfolio of N M Rothschild & Sons is reflected in the statement made by Anthony regarding the success of the Refinery. He said that the Refinery's success 'depends on the united efforts of all concerned, both at the Refinery and New Court, the closest consultation and co-operation is necessary, and the Partners hope and believe that this will continue without friction.'³⁸⁷ Victor became the eyes and ears for Lionel and Anthony as he carried out regular visits to the Refinery and kept them informed by letter of events and any concerns he had.

Victor's letters reveal for the first time much about the concerns Partners had about the Refinery. It was probably the first time these concerns were committed to paper for in the past much of the discussions surrounding the operation had been

³⁸⁵ RAL, 148/18, Notes on accident, May 1938.

³⁸⁶ RAL, XI/111/908 Royal Mint Refinery 1937-1946, 'Draft Memorandum' 12 Oct 1937.

³⁸⁷ Ibid.

carried out in the privacy of the Partners Room at New Court. Letters recorded a variety of issues at the Refinery, including pilfering.³⁸⁸ Incidences of theft, although rare, did occur. George Buess's daughter reported one such incident her father had spoken of:

From time to time there were thefts within the foundry, as it was not always easy to find employees who could resist the temptation of daily handling gold and silver. The refinery was enclosed within high walls and closed by a huge wooden door which was only opened to allow the vans from the Bank of England to come and fetch the bars. There was a small door for pedestrians, and in it there was a peep hole, through which visitors could be identified. One day an employee was suspected of the theft of gold shavings. This was investigated, and it was found that a tramp was in the habit of coming around every few days at lunch time, and that the employee in question would hand a sandwich to him through the peep-hole. A detective operating in the foundry found this suspicious and arrested the tramp and the employee. On searching the home of the latter, they found a tea caddy on the mantelpiece in the kitchen filled with gold shavings.³⁸⁹

It was also mooted that another employee of the refinery, dismissed for theft, was later observed working as a guardian to the Crown Jewels at the Tower of London.³⁹⁰ Refinery records frequently contain incidents of theft; generally Rothschild dismissed the employee and details were passed over to the police for prosecution.

Correspondence generated during Victor's time at the refinery not only recorded ongoing events but also reveals something about the dynamics of the Bank itself. His involvement at the Refinery was perhaps one way of grooming him for a future role he might hold at the Bank.³⁹¹ Perhaps it was hoped that the refinery would hold more appeal for Victor, like his father Charles, as having scientific interest rather than the

³⁸⁸ RAL, 111/870, Note 'Victor to Anthony', 17 Dec 1937; subject of pilfering, which was to be discussed at their next meeting.

³⁸⁹ Sommer-Buess, 'War chums friends for life', p. 303.

³⁹⁰ Ibid., p. 304.

³⁹¹ Family members entering N M Rothschild & Sons were encouraged to take on an active role in the daily operation of the Royal Mint Refinery. These included Charles, Victor, Edmund, Leopold, Evelyn and Jacob.

facts and figures side of banking. Or it may have been that Victor's involvement in the refinery was a way to keep him occupied and out of the way.

During the 1930s the operation had undergone various alterations and regular modernisation of working methods, and the treatment of copper and a number of other metals had been added the primary focus continued to be the treatment of gold and silver. In the past continuity of staff had been important as techniques were handed down through generations of workers. However, from the mid-1930s it became a hindrance once modern equipment that required different skills started to be introduced. The new Rolling Plant, installed primarily for the manufacture of silver coinage, required expert knowledge to ensure strict control of gauge, as precision was paramount.³⁹²

By 1938 attention at the refinery had turned to the production of munitions. The report prepared by Victor had identified the range of activities on offer that might assist with government rearmament plans. The Refinery introduced anodising; a process for protecting aluminium and its alloys from oxidising by electrolytic treatment in the chromic acid bath, and Cadmium Plating. The process for electrolytically depositing cadmium directly upon steel and iron was much in demand and used for aeroplanes parts. As was pressure and die casting; a process where molten metal is forced by high pressure into a mould cavity and is shaped.³⁹³ The success of die casting depended on the finish and accuracy of the die. Building

³⁹² RAL 148/29, RMR Correspondence Oct-Nov 1952, Notes prepared for an article in *The Times Review of Industry*.

³⁹³ RAL, XI/111/908, Report on trading position of Refinery, prepared by Victor for Anthony, 21 Oct 1937.

costs to adapt the existing Refinery site in Royal Mint Street for these processes were estimated at £13,000. An additional £15,000 and £20,000 was estimated for plant and equipment.³⁹⁴ Rather than trade under the existing name of N M Rothschild & Sons or the Royal Mint Refinery it was suggested that a small private company be formed under the title of Shield Alloys and Die Casting Limited. The main reason for the anonymity was that unlike the refining business, where clients came to you, in the engineering trade it would be essential to advertise and chase business, which was frowned upon by the Partners.³⁹⁵ Initial plans were that all work would continue to be undertaken at Royal Mint Street, utilising the existing workforce.

Anthony had made tentative enquiries and approached various government departments to discuss the facilities on offer at the refinery, and how best they might be engaged in the production of munitions. One approach was made to Sir Thomas Inskip, Minister for Co-ordination of Defence 1936-9, who had spoken at an annual luncheon Anthony had attended for the National Union of Manufacturers in London. Anthony, in his letter to Inskip, let it be known that space could be made available for the production of munitions and that the refinery was already equipped with suitable machinery for any type of work involving the rolling and stamping of metals.³⁹⁶ It was also noted that the premises had already been inspected and approved by the War Office and Air Ministry as suitable for the manufacture of

³⁹⁴ RAL, XI/111/908, Undated, untitled 5 page report into the business activities of the Royal Mint Refinery.

³⁹⁵ Ibid.

³⁹⁶ RAL, XI/111/908, 'Anthony to Sir Thomas Inskip', 15 Dec 1937.

certain munitions, and that the firm had already submitted a tender for a supply of detonators.³⁹⁷

In 1940, following Anthony's approach to the Ministry of Co-ordination of Defence (established in 1936) the Refinery was placed under the supervision of the newly formed Ministry of Aircraft Production (MAP). David Edgerton explained in *Britain's War Machine* that 'one of Churchill's very first acts on becoming Prime Minister was to create a new Ministry of Aircraft Production, under Lord Beaverbrook. Beaverbrook wanted a rapid increase in production.'³⁹⁸ Churchill's approach to beating the enemy was 'not with large masses but with comparatively small numbers of men armed, equipped and trained to the highest degree (airmen, tank troops, navy).'³⁹⁹ In August 1941 Churchill agreed with Frederick Lindemann, his personal adviser, 'that leaving workers in industry to provide the population with "reasonable amenities" even at the expenses of, say the infantry' was essential.⁴⁰⁰ Edgerton noted that 'one of the main aims of the rearmament programmes was to build up a powerful air force that could bomb Germany.'⁴⁰¹ Overy and Wheatcroft have pointed out that from 1936 the expansion of the Air Force got underway and expenditure had already trebled.⁴⁰² According to Calder:

Between 1936 and 1945 the Government spent nearly four hundred million pounds on buildings and plant for the aircraft industry; this included both 'shadow factories made from scratch and extensions to existing firms, and the expense was spread over nearly 2,800 premises. At its peak some 14,000 engineering works were employed on MAP contracts.⁴⁰³

³⁹⁷ Ibid.

³⁹⁸ David Edgerton, *Britain's War Machine: Weapons, Resources and Experts in the Second World War* (UK: Penguin Books Ltd., 2012), p. 67.

³⁹⁹ Ibid., p. 66-7.

⁴⁰⁰ Ibid., p. 73.

⁴⁰¹ Ibid.

⁴⁰² Richard Overy and Andrew Wheatcroft, *The Road to War: The origins of World War II* (London: Macmillan, 1989), p. 75.

⁴⁰³ Angus Calder, *The People's War: Britain 1939-1945* (London: Pimlico, 1997), p. 446.

Around the same time Johnson Matthey was also placed under MAP control to supply vital materials, components and assemblies. A selected number of Managers and key personnel were informed that they had been classified by MAP as being in ‘reserved occupations’ and therefore were not free to enlist.⁴⁰⁴ Bullion melters, assayers, analytical chemists and non-metal rollers were among those classified as ‘reserved occupations’, whether or not of military age, so there was no great exodus from the industry.⁴⁰⁵ Members of staff at the Rothschild operation fell into these categories, which ensured a team of experts were readily available at the Refinery. The MAP utilised the rolling skills available at the Refinery to roll copper slabs, cast by Enfield Rolling Mills, into thin strips just 0.004 inches thick for the manufacture of aircraft radiators, though the main bulk of the country’s production was based in Birmingham. The installation of half-ton capacity tilting furnaces casting brass billets followed the metal being extruded by the Delta Metal Company, for the manufacture of shell cases. The production capacity at the Refinery grew to a weekly output of around 300 tons of billets.⁴⁰⁶ In addition MAP asked staff at the Royal Mint Refinery to plate very fine molybdenum and tungsten wire with gold and silver for use in radio transmitters. At the time only manufacturers in the United States produced such a material. Staff at the London refinery designed and constructed the specialist machinery and succeeded in producing the special wire plating; the wire continued to be produced by the firm until 1965.⁴⁰⁷

⁴⁰⁴ McDonald and Smyrk, *The History of Johnson Matthey*, p. 98.

⁴⁰⁵ Wilson, *Two Hundred Precious Metal Years*, pp. 238-9.

⁴⁰⁶ RAL, 000/1242, ‘The Alternative RMR’, *N M Rothschild & Sons, Pensioners Newsletter*, 15, 1997, p. 15.

⁴⁰⁷ *Ibid.*; Peter Steel found himself in the research programme for developing RMRs contribution to the war effort alongside Bill Williams. Both were part of the team that designed the plating machines used to coat very fine wires of molybdenum and tungsten with gold and silver for use in radio transmitters.

The change in scale and pace at the Rothschild refinery was reflected in the willingness of the Partners to again invest in the future of the Refinery and to commit large sums of money. Investment extended to the search for new premises as space was at a premium at Royal Mint Street and larger premises to accommodate the die casting machinery would be required if Rothschild was successful in securing government contract. Part of the initial search turned up a property on the banks of the river Thames. A cautionary note appears on the paperwork regarding the location of the proposed site 'in view of air raids', which may account for the final choice of additional premises away from the City.⁴⁰⁸

Smith had received a good deal of encouragement from officials at the MAP for the production of detonators. It was anticipated that at the very least a couple of lathes would be required, in addition to other specialist equipment meaning a fairly substantial outlay for the Partners. Smith was an advocate of the die casting process, and with over twenty years experience produced a specialist report into how Rothschild could develop this area of production further. At his suggestion a couple of machines were purchased and the staff began experimenting.⁴⁰⁹ The War Office wrote to Rothschild at the end of March asking the refinery to quote for a fuse made by the die casting method. Since they were still in the early experimental stages, Rothschild declined the offer for the time being.⁴¹⁰ Cost was a major factor in any agreement for munitions, in particular the large outlay that would be required for the purchase of new machinery. Although the Partners were willing to invest in the future of the Refinery it is apparent that some friction existed between Victor,

⁴⁰⁸ RAL, XI/111/870, 'Anthony to Victor', 4 Mar 1938.

⁴⁰⁹ RAL, XI/111/908, Memorandum on Die Casting prepared by Stanley Smith, 21 Jan 1938.

⁴¹⁰ Ibid., 'Rothschild to War Office', 25 Mar 1938.

Kimpton and Smith over the issue of finance. Victor, when discussing with Lionel costs to accommodate the new lines of production, observed that 'I cannot help feeling that Kimpton is trying to rush us a bit. As you yourself said, this has been a bee in his bonnet for a considerable time' adding that:

the moment we decide to carry out any of the suggestions, even those of a temporary nature, which Kimpton wants, it automatically involves us in a very heavy expenditure, because these temporary modifications will have to be followed up by a rebuilding plan... it will be very expensive.⁴¹¹

In his response Lionel took a more relaxed view; having spoken with Kimpton he had been assured that nothing further would be done until everyone had discussed things over lunch at New Court.⁴¹²

However, by the end of 1938 a number of unconnected events happened that affected the future plans at the Refinery. Smith left, having been recruited by MAP as a factory inspector and Bill Williams was appointed manager at the Refinery in his place. Victor was not destined to stay long at the family firm and his involvement was interrupted in April 1939 when he was appointed to a newly formed sub-committee of the Chemical Defence Committee and his involvement with the family business dwindled thereafter. In addition gold business at the refinery had been drastically cut as it became increasingly more expensive to ship gold. Insurance Underwriters demanded full war risk premiums on gold shipments.⁴¹³ Effectively the move ruled out arbitrage business, with the exception of those who were prepared to ship gold without insurance cover. When war finally broke out it paralysed production and transportation links.

⁴¹¹ RAL, XI/111/870, 'Victor to Lionel', 10 Aug 1938.

⁴¹² Ibid., 'Lionel to Victor', 11 Aug 1938.

⁴¹³ RAL, 000/604/B/43, Insurance, Policy Amendment notice, 3 Dec 1936.

Overy and Wheatcroft observed that from the start British rearmament was planned with the idea of a potential conflict in 1939.⁴¹⁴ Whilst Britain had not been militarily naked she had not possessed 'great military strength' and it had taken a minimum of four years of detailed plans and economic mobilisation to rearm.⁴¹⁵ Overy and Wheatcroft suggested that the Government received the backing of the nation during 1939 'as the British public adjusted itself to a war mentality.'⁴¹⁶ Orwell captured the contemporary mood for the anticipated war when he wrote 'it's in the air you breathe.'⁴¹⁷ The declaration of war on 3 September 1939 was accompanied by a flurry of government legislation imposing official controls. New Ministries were immediately set up for Supply, Food, Economic Warfare, Information, Home Security and Shipping, closely followed by War, Transport and Aircraft Production. Under special powers given to new and existing Ministries security, food, finance, international trade, currency, commodities, information, labour, movement, transport, manufacture and health for the whole nation were successfully taken under government control within a few months.⁴¹⁸ The Home Office, responsible for internal safety through the police and fire brigades, was extended to include Civil Defence against air raids; responsibility for Civil Defence subsequently passed over to the new Ministry of Home Security. In addition there was a Ministry of Works and Building, while Ministries of Fuel and Power followed in 1942 and for Town and Country Planning, Civil Aviation and Reconstruction between 1943 and 1945.⁴¹⁹

⁴¹⁴ Overy and Wheatcroft, *The Road to War*, p. 100.

⁴¹⁵ Ibid., pp. 75-6.

⁴¹⁶ Ibid., p. 100.

⁴¹⁷ Ibid.

⁴¹⁸ McDonald and Smyrk, *The History of Johnson Matthey*, p. 10.

⁴¹⁹ Ibid.

The moment war was declared, under the Defence (Finance) Regulations 1939, the free gold market was closed and all private transactions banned, gold dealings had to be made through official channels only.⁴²⁰ Simultaneously, various banking regulations came into force, and the Bank of England (the Bank) took control of fixing the price of gold. On 5 September the Bank set the price of gold at 168s, which remained unchanged for the duration of the conflict.⁴²¹ Sharps & Wilkins Bullion Review for 1939 listed four specific areas that affected the gold industry. First, the re-imposition of gold embargoes; second, the transfer of £350,000,000 of gold held by the Bank of England to the Exchange Equalisation Fund; third, the acquisition by the British Treasury at the outbreak of war of all gold bullion and coin held by anyone resident in the UK, under the Defence (Finance) Regulations and finally, the abnormal amount of gold exported to the United States.⁴²² Between January and August 1939, gold shipments had reached record proportions as gold with a value of over £360 million was exported to the United States.⁴²³ According to Sharps & Wilkins ‘much of the gold represented hoarded metal released by foreign holders, who owing to their continued uneasiness regarding the European political situation preferred dollars in New York to gold in London.’⁴²⁴ The amounts of gold stored in London, and business transactions became increasingly less. Already, as a result of the Currency and Bank Notes Act of 1928, a large percentage of gold had been collected in 1931 when the Bank of England had exercised its power to call in amounts of gold in excess of £10,000. In September 1939 bankers were asked to surrender the estimated £200,000 of gold in British vaults, which took nearly a year to collect. In addition Bullion Office records at the Bank of England reveal that

⁴²⁰ Green, ‘Precious History’, p. 532.

⁴²¹ Sharps & Wilkins, *Bullion Circular Review*, 1939.

⁴²² Ibid.

⁴²³ Ibid.

⁴²⁴ Ibid.

nearly £43.5 million of hoarded gold coin was taken in by the Bank in the first year of war and the amount stood at nearly £451 million at the end of the war in 1945.⁴²⁵ The coin was collected directly or through authorised dealers, who paid 39/3d for sovereigns from the general public. It was impossible to establish the true value of hoarded gold that would have been disposed of through unofficial channels. However some of the gold coin was purchased by jewellers at inflated prices as high as 57/-d, in 1942, and it is thought that much of the coin eventually found its way into the Bank.⁴²⁶ Within the first year of war gold estimated at £700 million had been sent from Britain to either Canada or New York.⁴²⁷

Shipments to Canada had begun in the spring of 1939 as it had been felt advisable to build up gold stocks in North America against possible shortages of liquid funds there. In May the opportunity presented itself for large consignments of gold to be sent to Canada, carried by cruisers escorting the King George VI and Queen Elizabeth on their official visit. By the end of June over £80 million of gold was stored at the Bank of Canada.⁴²⁸ Alfred Draper, using archive records at the Bank of England, captured the race to save European gold in the extraordinary operation instigated by the Bank.⁴²⁹ Enormous quantities of gold were spirited away aboard Royal Navy frigates for safe keeping in Canada and North America. The largest consignment was sent in the first week of July 1940, when it was recorded that there were nearly £200 million of gold on the water, which was possibly the greatest

⁴²⁵ BEA, M5/534, 'Bank of England 1939-1945, Vol II', p. 421; (The Bank of England, series consists of volumes 1-7 containing a history of the war years, 1939-45, in the Bank. Produced for internal use by J A C Osborne, Adviser to the Governors, and R E H Allport between 1943 and 1950).

⁴²⁶ Ibid., p. 420.

⁴²⁷ Ibid., p. 423.

⁴²⁸ Ibid., p. 425.

⁴²⁹ See, Alfred Draper, *Operation Fish, The Race to Save Europe's Wealth 1939-1945* (London: Cassell, 1979).

amount of gold ever risked at one time.⁴³⁰ Niall Ferguson argued that ‘as national financial systems buckled in the face of invasion and aerial bombardment, gold was the one asset that proved indestructible. It was Britain’s ability to ship it in large quantities to the United States in 1938-1940 that kept the flow of imports coming across the Atlantic.’⁴³¹ Bolton, Bullion Department manager at the Bank of England, reflected later on the ‘enormous risks’ taken though ‘happily we [the Bank] did not lose one bar of gold throughout the period.’⁴³² It was fortunate for the Bank no losses were reported as the consignments of gold were not insured since they could never have been replaced.⁴³³ No more shipments took place after August 1940 until February 1941.

In London many of the financial institutions in the City had precautionary plans in place, which were invoked on the outbreak of war. David Kynaston, in his study of the City at war, wrote of the inevitable shrinkage of the population in the City, a response to ‘military call-up’ but also from ‘many members of staff engaged in routine work also evacuated from bomb-threatened London, as wealthy City partners made good use of their liberal supply of country houses in order to accommodate them.’⁴³⁴ Many of the City establishments had started planning for war far in advance of 1939 and details concerning resources and mobilisation of workforces regularly appear in the published history of many City institutions. For example the war-time planning of the Bank of England, Midland Bank and Lloyds Bank resembled the execution of a well thought out military exercise, necessary for the

⁴³⁰ BEA, M5/534, p. 426

⁴³¹ Niall Ferguson, *The Cash Nexus: Money and Power in the Modern World, 1700-2000* (Allen Lane: The Penguin Press, 2001), p. 320.

⁴³² Kynaston, *The City of London: Vol 3*, p. 458.

⁴³³ BEA, M5/534, p. 471.

⁴³⁴ Kynaston, *The City of London: Vol 3*, p. 463.

mobilisation of a large workforce; in the case of Midland and Lloyds both had the additional pressure of keeping large number of branch offices across the country open for business.⁴³⁵ Dennett suspects that ‘precautions probably did not differ from those taken all over London.’⁴³⁶ She holds up the preparations for war the law firm Slaughter and May as being typical. Slaughter and May were fortunate that the building they occupied had a sub-basement that could be equipped well in advance. Staff were asked to provide a ‘blanket, and a mackintosh, boots and gloves made of rubber to be stored there. Gas masks and torches were to be carried at all times.’⁴³⁷ Rothschild was one of the companies with access to a country estate and used the family estate at Tring.

Only sketchy details survive of the precautionary planning undertaken at N M Rothschild & Sons. With the younger workforce called up, most of the remaining staff, which by then consisted of mainly women and older men whose job could be done outside the City, were evacuated to the country mansion residence at Tring. Victor had inherited Tring in 1937 following the death of his uncle Walter. On taking up residence N M Rothschild & Sons took on responsibility for its upkeep.⁴³⁸ Business records were duplicated and coupons and bonds, collected over the counter at New Court, were sent daily to Tring to be processed. Palin, an employee of Rothschild based at New Court during the war, wrote in his own account that it became ‘a fortress manned only by a small garrison of men whose presence in the

⁴³⁵ See, for example, Elizabeth Hennessy, *A Domestic History of the Bank of England 1930-1960* (Cambridge: Cambridge University Press, 1992); J R Winton, *Lloyds Bank 1918-1969* (Oxford: Oxford University Press, 1982); A R Holmes & Edwin Green, *Midland: 150 years of banking business* (London: B T Batsford Ltd., 1986).

⁴³⁶ Laurie Dennett, *Slaughter and May: A Century in the City* (Cambridge: Cambridge, Grants Editions, 1989), p. 199.

⁴³⁷ Ibid.

⁴³⁸ RAL, XI/111/843, Special Correspondence Tring Park 1939-1940, ‘Bevington, Staff Manager New Court to Major Fellows, Land Agent to Lord Rothschild’, 7 Sep 1939.

City was necessary to keep the place going.⁴³⁹ The London office came under the leadership of Brooks, who according to Palin, 'remained staunchly at the helm during the day and commanded the fire-watchers by night.'⁴⁴⁰ Palin recalled that:

During the daylight alerts we descended to the basement and sat on tin boxes in the stone-flagged passages until the sound of the 'all clear'. The efficiency of the New Court fire brigade saved the building from destruction by incendiary bombs; it could not have protected us from the high explosives which flattened wide areas of the City all around us. Throughout the war New Court suffered nothing worse than windows broken and doors blown in by blast and the superficial damage to the roof which the incendiaries inflicted in the few seconds before the watchers got to them. The building and out jobs were still there when we came back to them.⁴⁴¹

One visitor to the City, whose husband generally lunched once or twice a week at New Court, described a journey and visit to Rothschild on the morning of the 30 December 1940, following the severe bombardment of the City the previous evening. Their progress across London was slow and was undertaken on foot as they were forced to make a 'wide detour through the streets littered with burning rubble and oozing with water' to get to New Court. Mrs Robert Henrey on arriving at New Court recalled that:

On this nightmare morning, because of the bomb that had fallen on one side of the street so that there was nothing but smouldering ruins in the carriageway, it was not possible to enter the bank by its beautiful courtyard, and the side entrance had to be used. The historic building remained standing by a miracle though most of the windows were broken and all the smells of the street, burnt paper, charred wood, a damp mustiness and white winter fog rolling up from the Thames came through the casings. Mr Anthony de Rothschild lunched almost every day in a room where fine oil paintings of the family through its many generations embellished the walls, and where a merry fire burned in an old-fashioned grate. Well-groomed footmen, who had known the partners since childhood, silently passed round dishes while eminent people discussed politics and foreign affairs with the moderation expected of men in high position. On this occasion the steps were coved with broken glass and a messenger, wearing a top-hat and carrying a rolled-up umbrella, was brushing the dust from his coat. Mr Anthony led his guests to a small room below stairs where he often slept during the air raids and where

⁴³⁹ Palin, *Rothschild Relish*, p. 143.

⁴⁴⁰ Ibid.

⁴⁴¹ Ibid.

the housekeeper served them with cold tongue and chutney. There was no coffee because the gas was cut off. This perhaps was to prove one of the strangest lunches served at New Court.⁴⁴²

It was not unusual for directors and partners of institutions to stay overnight in the City. Kynaston wrote that '[Governor] Norman himself was now sleeping at the Bank [of England] 2 or 3 nights each week and occasionally a lowly member of staff would sight that still alert and vital figure wearing a dressing gown emblazoned with a dragon.'⁴⁴³ Following a visit by Anthony to Governor Norman at the Bank of England in December 1941, Norman wrote in his diary '[Anthony] seems overwrought and worried. Lionel seriously ill and future uncertain.'⁴⁴⁴ The strain on Anthony de Rothschild began to tell, as the conflict deepened and bombs continued to fall reducing much of the City to a bombsite. Lionel died in January 1942. Prior to his death it was announced that N M Rothschild & Sons had formed a private company, Rothschild Continuation Limited, which ensured that if both Partners died the business would carry on till new partners assumed control.⁴⁴⁵ However, business in the City had virtually dried up and in almost all the merchant banks it was 'care and maintenance' that preoccupied Partners.⁴⁴⁶ In spite of its central location, though, the Rothschild bank and its staff escaped any serious physical damage and it emerged relatively unscathed in 1945.

The Royal Mint Refinery also escaped serious damage, despite its close proximity to the London docks. In 1939 a third of Britain's imports arrived via the Thames.⁴⁴⁷

The enemy persistently targeted the river intending to disrupt supplies and damage

⁴⁴² Mrs Robert Henrey, *London Under fire 1940-45* (London: J M Dent & Sons Ltd., 1969), p. 46.

⁴⁴³ Kynaston, *The City of London: Vol 3*, p. 474.

⁴⁴⁴ *Ibid.*, p. 492.

⁴⁴⁵ RAL, 000/1245, 'Press cutting book', 6 Jan 1942.

⁴⁴⁶ Kynaston, *The City of London: Vol 3*, p. 468.

⁴⁴⁷ Museum of London Docklands, Exhibition, Mar 2012.

shipping. Daily business operations at the Refinery were frequently subjected to the general disruption of services such as water, gas and telephone.⁴⁴⁸ The majority of the workforce at the Refinery, like those at New Court, had been evacuated away from London to Tring. However, unlike the New Court employees who worked at the mansion, workers from the Refinery were relocated to the new shadow factory established by Rothschild at Tring. In London a workforce of just over 50 remained to manage the premises, mainly those engaged in treating the gold and silver that turned up sporadically. During the war the site of the Refinery was designated as a 'key point' of national importance and it became the duty of staff to provide information concerning property damage and numbers of casualties in the vicinity of Royal Mint Street and the surrounding area to the authorities.⁴⁴⁹ On the flat roof, accessible through the messroom door, was the lift shaft and next to this stood an air raid shelter for use by the night time firewatchers and two large acoustic horns for the detection of enemy aircraft.⁴⁵⁰

Staff at the Refinery kept a daily spotter's log to record activity and enemy bombs in the immediate vicinity of Royal Mint Street. The first entries appeared in the log in July 1940. At first, despite the warning sirens being sounded, staff at the Refinery continued to work through the raids. By August 1940 the number of entries had increased, and the busiest period was during the second half of August when both day and night raids took place on the outskirts of the City.⁴⁵¹ During September there were greater periods of disruption at the Refinery. Gas and telephone lines were

⁴⁴⁸ RAL, 000/413, RMR Spotters Log 1939-1943.

⁴⁴⁹ RAL, 000/413, RMR Fire Guard Account 1942-1945, 'ARP Department Circular, 290/39', 1 Feb 1943.

⁴⁵⁰ Letter to Michele Blagg from A Godfrey Hunt, 'Recollections of the Royal Mint Refinery', Jan 2012.

⁴⁵¹ Ibid., RMR Spotters Log 1939-1943.

frequently suspended and refinery staff took to sleeping in the vault rather than attempting to return home.⁴⁵²

Figure 11. 'RMR Workman's flat'⁴⁵³



The main contributors to the log were Arthur Hunt and Ken Belcher. Hunt had overall responsibility for air raid precautions and just before the outbreak of war had taken the spare bedroom in the Refinery's top floor flat, the home of the resident cook, Lily Vining.⁴⁵⁴ His own family were evacuated to stay with relatives in Stoke and he joined them every third Sunday for an overnight visit. Hunt recorded that his return train journey to London generally took him in excess of 10 hours.⁴⁵⁵ Hunt's wife and son often made the journey to London to visit him at the Refinery.⁴⁵⁶ A number of times during the war Hunt and Belcher's wives worked at the Refinery either on the telephone exchange, with Tilly Finestein, or later in 1943 packing and

⁴⁵² Ibid.

⁴⁵³ RAL, 000/848/10/1, 'RMR, Workman's flat'.

⁴⁵⁴ RAL, 000/1242, 'Second Generation Notes', *N M Rothschild & Sons, Pensioners Newsletter*, 12, Mar 1996.

⁴⁵⁵ Ibid.

⁴⁵⁶ Ibid.

weighing small gold tola bars prior to dispatch to the Middle East.⁴⁵⁷ All three complained about the extra work caused when a company, White Metals, were offered temporary office accommodation when their own premises were bombed.⁴⁵⁸

One particularly eventful night for Refinery firewatchers was 7-8 September 1940 when the Luftwaffe launched a massive attack on London. The Peabody buildings on the Whitechapel Estate were destroyed, killing nearly 80 people.⁴⁵⁹ Hunt had been part of the rescue party, and his son later recalled how his father had subsequently collapsed with exhaustion. He spoke of the kindness extended to his father by Anthony, who on visiting the Refinery dispatched Hunt senior to the mansion at Tring for some much-needed rest.⁴⁶⁰ October and November 1940 proved just as eventful and the Refinery experienced frequent interruptions to services, in particular the water supply, as bombs rained down on the surrounding areas: target areas included the docklands, Tower Hill and along the banks of the Thames.⁴⁶¹ At the Bank of England firewatchers on the roof used a map designed by Arthur Bond, a Bank employee and artist, to identify key land marks around the City. Bond set a panoramic view around an ordnance survey map of the surrounding area. The chimney stack at the Royal Mint Refinery appeared to the east of the map (see below).

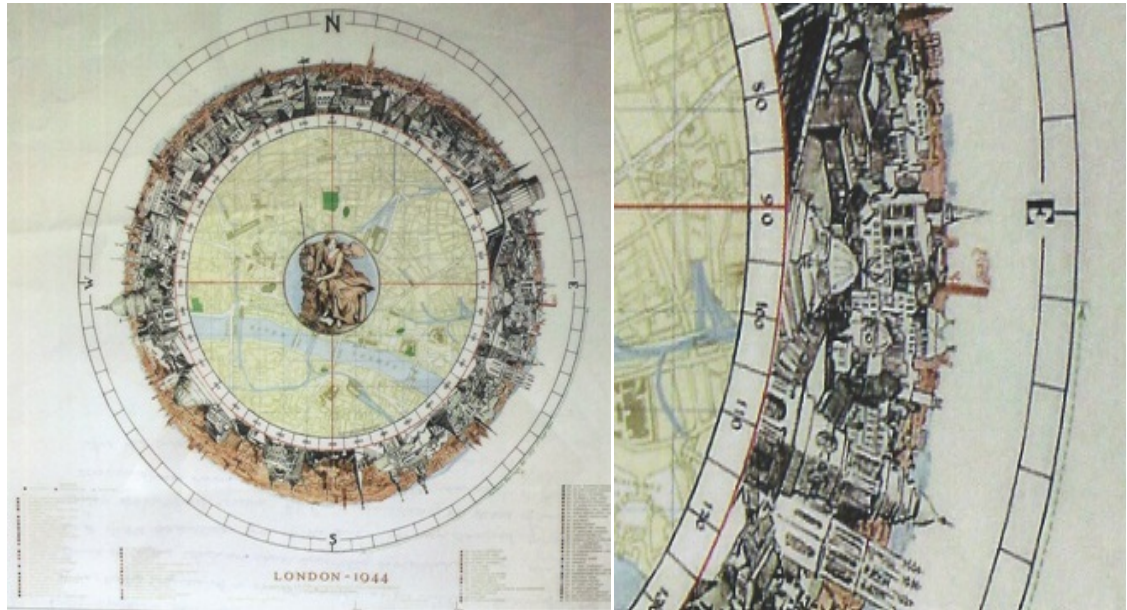
⁴⁵⁷ Ibid.

⁴⁵⁸ Ibid.

⁴⁵⁹ <www.peabody.org.uk/about-us/history/war-damage-and-post-war-recovery.aspx> [accessed: 19 Nov 2012].

⁴⁶⁰ RAL, 000/1242, 'Second Generation Notes', 12, Mar 1996.

⁴⁶¹ RAL, 000/413, RMR Spotter's Log, 1940.

Figure 12. Bank of England 'Roof Spotter's Guide'.⁴⁶²

Fewer raids were recorded by staff at the Refinery for December but the building suffered minor damage when a land mine exploded in Tower Hill blowing the windows in and small incendiaries caused fires on the roof that had to be extinguished by the firewatchers on duty. Kynaston observed that ‘firewatching was one of the war’s many egalitarian aspects.’⁴⁶³ Alan Welsford, partner at Slaughter and May, remarked how it had ‘given us all a great opportunity to know each other much better than is possible in ordinary peacetime circumstances,’ adding that it was ‘exceedingly good’ for a partner such as himself ‘to get thoroughly put on the spot by a junior office boy at the office billiard table.’⁴⁶⁴ Ackrill and Hannah, in research into the business of banking during the war, wrote about how nightly fire-fighting on vulnerable buildings took its toll on the energy of staff. They noted that ‘getting through the day to day business in civil life required dogged persistence rather than

⁴⁶² Source: BEA, 11 A 201/1, ‘Roof Spotter's guide’; Reproduced courtesy of The Bank of England Archive.

⁴⁶³ Kynaston, *The City of London: Vol 3*, p. 480.

⁴⁶⁴ Dennett, *Slaughter and May*, p. 201.

dashing enterprise.’⁴⁶⁵ Holmes and Green, in the history of Midland Bank observed that ‘London staff suffered worst of all. As well as the hazards of working in damaged premises, often with no heat or light, they faced the problem of getting to and from their places of work, sometimes after having suffered damage to their own homes’ but added that in most cases ‘business continued’ as usual.⁴⁶⁶

The night and morning of 10 -11 May 1941 marked the peak of the German bombing campaign, and was one of the longest nights in London of the war.⁴⁶⁷ The spotter’s log at the Royal Mint Refinery recorded that no raid took place during the day. However, in the evening warnings began at 11pm and at 11:18pm the first oil bomb exploded in Finsbury. The order to shut the Refinery down was given at 11:20pm. Reports followed of planes ablaze above the London sky as they were hit by gunfire. At 12:10am five bombs landed in Cable Street, adjacent to Royal Mint Street. Steel in his report of the evening’s events wrote:

Incendiaries on our roof and surrounding areas hundreds of them in this district at that time. Royal telephone exchange had incendiaries on their roof they were allowed to burn out. No watches apparently could get through to them by phone for 10 minutes. Large fires in the City and West End.⁴⁶⁸

At 01:25am ‘power and light had been cut off and fires were burning furiously everywhere. Tower Bridge was struck.’⁴⁶⁹ It was observed that ‘smoke and glare from fires blot out a full moon.’⁴⁷⁰ More incendiaries and land mines were dropped over the area at 03:25am and by 04:20am ‘fires in every direction, within 100 yards

⁴⁶⁵ Margaret Ackrill, and Leslie Hannah, *Barclays: The Business of Banking, 1690-1996* (Cambridge University Press, 2001), p. 112.

⁴⁶⁶ Holmes, & Green, *Midland*, p. 199.

⁴⁶⁷ See, for example, Gavin Mortimer, *The Longest Night: 10-11 May 1941 Voices from the London Blitz* (London: Weidenfeld & Nicolson, 2005).

⁴⁶⁸ RAL, 000/413, RMR Spotters Log, 10-11 May 1941.

⁴⁶⁹ Ibid.

⁴⁷⁰ Ibid.

of RMR, burning furiously.’ At 05:25am there was ‘still plenty of action’. Finally the all clear was sounded at 05:45am.⁴⁷¹ Steel’s final entry reported that:

Tonight’s raid can be compared with the worst we have had. At 06:00am fires were burning furiously everywhere. This raid must hold the record for the number of delayed action bombs that have been dropped. Power and light still off but telephone ok. Weather brilliant moonlight. Visibility excellent. Power and light cut off at 01:25am, 10 May 1941 – partly restored at 01:00pm 29 May 1941 and fully restored on 1 June 1941.⁴⁷²

Press reports that followed estimated that across London 1,436 people had been killed and 1,792 injured.⁴⁷³ Thankfully none of the staff present at the refinery that night suffered any injuries. It is little wonder that 1941 represented the lowest figure ever for the treatment of gold at the refinery: merely 37,000 ounces.⁴⁷⁴ The search for alternative premises became more pressing as the realities of war hit home and a less vulnerable position for the business was sought.

Victor came to Rothschild’s assistance and agreed to lease a disused factory unit in Tring, the Silk Mill, which he had also inherited on the death of his uncle Walter.⁴⁷⁵

A lease for the premises was drawn up for a term of 21 years between the Ministry

⁴⁷¹ Ibid.

⁴⁷² Ibid.

⁴⁷³ Ibid.

⁴⁷⁴ RAL, 148/24/3 RMR Silver and Gold Treated 1 Jan 1905- 31 Dec 1948.

⁴⁷⁵ Originally built in 1824 for William Kay, the Silk Mill was a substantial four-storey red brick and slated textile factory, the fifth floor was a later addition. At the peak of its production 500 employees worked there. The large water wheel powered the machinery and a series of pipelines to pump water to Tring Mansion were installed. In 1872 the Rothschild family acquired the 4,000 acre Tring Park estate, and with it the Silk Mill. Although the viability of the textile business had diminished the doors of the Mill were kept open until 1898. Lord Rothschild provided a pension for older employees and offered younger men the chance of a passage to start a new life in Canada. A useful purpose for the premises was sought. The top two floors of the building were removed, possibly to enhance the view from the mansion, although the premises remained sizable. From 1873 the wheel which drove the generators had been adapted and had supplied electricity to the mansion. The disused factory made a useful base for the Tring Park maintenance departments who subsequently moved there. Plans were made to install a dynamo and electricity continued to be supplied to Tring Park mansion and the Rothschild Laundry building close by. Adaption’s to the Silk Mill were carried out under William Huckvale, a local architect. By the mid 1930s the number of maintenance staff at the manor had dwindled and the Silk Mill stood empty until it was occupied by soldiers from the Dorset Regiment as barracks before being freed up for RMR occupation. Source: Wendy Austin, *Tring Silk Mill* (Oxford: Private Publication, 2008).

of Aircraft Production, Victor, Lord Rothschild and N M Rothschild & Sons.

William Huckvale junior, a local Tring architect, who had completed a number of building projects for the Rothschild family, was commissioned to make suitable modifications to the structure of the Silk Mill; in particular the floors which were reinforced to cope with the weight of the heavy plant and machinery relocated from the Refinery in London.⁴⁷⁶ On the highest point of the roof an anti-aircraft gun was mounted in a gun-turret and the exterior of the building was painted in camouflage colours.⁴⁷⁷ A new company was formed and the new venture at Tring began trading under the name RMR (Engineering). A new manager was appointed for the factory, John Flynn, who took up the position in 1941 having relocated from the Midlands. Flynn's extensive background in the engineering industry made him the ideal candidate to set up and take control of the new operation, which received a government contract to manufacture torpedo detonators⁴⁷⁸ and precision parts for artillery and aircraft.⁴⁷⁹ Shield Alloys, the company formed and fronted on behalf of Rothschild by two employees, Kimpton and Hoyland, shared the factory space and produced aluminium alloy and brass sand castings for aircraft components. Whilst Anthony visited Tring, it was Kimpton, in his role as General Manager at Rothschild, who regularly travelled between New Court, the Refinery in London and the factory in Tring. From 1942 Kimpton took a greater role in the business and assumed overall responsibility for the co-ordination of supplies and production. Staffing of the new factory was left to Flynn.

⁴⁷⁶ Austin, *Tring Silk Mill*, p. 75.

⁴⁷⁷ Ibid.

⁴⁷⁸ Alf Bishop, foreman of the RMR Press Shop, at the end of the War was awarded the British Empire Medal for his work on detonators. Source: RAL, 000/1242, *N M Rothschild & Sons, Pensioners Newsletter*, Mar 1997.

⁴⁷⁹ RAL, 000/1242 'Alternative RMR', 15 Sep 1996.

In the past the heavy manual nature of work had meant that the workforce at the Royal Mint Refinery was predominantly male, with the exception of catering staff. A number of skilled staff relocated from London to Tring, and the workforce was enlarged with women and older men recruited from the local area. Staffing levels required constant attention to keep pace with losses to the armed forces. Frequent recruitment campaigns were run at the factory. Adverts were placed in regional newspapers in areas with a tradition of tool making and these attracted some workers, particularly from the Midlands. Suitable housing for the inflated workforce was also a problem. There was a shortage of accommodation in the area. In the 1880s 400 cottages had been built on the Tring Park estate and some of these estate houses were placed at the disposal of the incoming workers. Single men were accommodated in 'The Bothy' in London Road⁴⁸⁰ and single women in the old Rothschild laundry building in St Peter's Hill.⁴⁸¹ As war progressed the majority of the workforce engaged in work at both RMR Engineering and Shield Alloy were women.

In 1939 women constituted 27 per cent of the total labour force in Britain, but by 1944 this had risen to 39 per cent.⁴⁸² In 1943 females aged between 15 and 60 were required by law to register with the Ministry of Labour and were engaged in the forces, munitions work and essential industries.⁴⁸³ Nearly three million married women and widows were employed in these sectors.⁴⁸⁴ Engineering was one sector that opened up to women and engaged them in all forms of light and consumer

⁴⁸⁰ Today a supermarket stands on the site of 'The Bothy' London Road, Tring.

⁴⁸¹ Austin, *Tring Silk Mill*, p. 78.

⁴⁸² McIvor, *A History of Work in Britain*, p. 55.

⁴⁸³ Calder, *The People's War*, p. 331.

⁴⁸⁴ Ibid.

engineering production in ever-increasing numbers.⁴⁸⁵ Unpleasant and dirty work proved no barrier and women were trained to perform semi-skilled task. One limiting factor the Ministry of Labour had to overcome, in order to expand the war industry, was the need to redistribute and increase the supply of skilled labour. McIvor defined 'skill' as 'a combination of manual dexterity and knowledge of materials and tools and discretion acquired through a long training period, traditionally of several years, commonly through apprenticeship'.⁴⁸⁶ Skilled operatives were the scarcest and therefore less skilled workers were 'upgraded' to perform skilled tasks and it became common practice to use semi-skilled workers to assist skilled men. These 'dilutees' might take over machines to free the skilled worker from mundane tasks. This was a transformation in the practice and experience of work.⁴⁸⁷ There is no evidence of this happening at the Refinery, but at Tring the practice was adopted.

Leopold de Rothschild (1927-2012) recalled something of the working methods at Tring during the summer he spent working at RMR (Engineering) in 1944, whilst staying at the family mansion. He observed that 'it was a long hot summer' and the work was 'boring and repetitive as you did the same task over and over again'.⁴⁸⁸ Each morning he cycled from the mansion to the factory where he took his place on the production line making detonators. He operated a lathe on which he was trained by the lady who stood next to him, Margaret, who after the war went to work at New Court. Leopold observed that he was the only male on the line. The monotony of the work was broken by the music piped throughout the factory. Programmes such as *Workers' Playtime* and *Music while you Work* were introduced by the BBC to relieve

⁴⁸⁵ Anon, *Ourselves in war*, p. 32.

⁴⁸⁶ McIvor, *A History of Work in Britain*, p. 48.

⁴⁸⁷ Calder, *The People's War*, p. 330.

⁴⁸⁸ Private conversation, Leopold de Rothschild, 11 Jul 2011.

men and women working at top speed in the factories.⁴⁸⁹ Neither of the programmes lasted more than half an hour at a stretch, as if the music went on all day as a background to work, it had the opposite effect to 'relief'.⁴⁹⁰ Calder noted that 'progressive managements relayed the programmes over loudspeakers twice a day'.⁴⁹¹ The programmes acted as a stimulant in the 'dead' parts of the day, mid-morning and mid-afternoon, which proved to allay fatigue and boredom and stepped up production.⁴⁹² If anyone complained about feeling tired the favourite wartime response given by the women was 'don't you know there's a war on?'.⁴⁹³ Generally Leopold observed that workers at Tring appeared happy with the working environment, and that there was a good atmosphere, despite most of the women being tired, overworked with the effort of war and under-nourished from prolonged rationing.⁴⁹⁴

The Rothschild workforce, at New Court, the Refinery in London and factory in Tring, had access to a staff canteen. Leopold remembered the canteen at Tring being good, although perhaps not in the same league as the New Court catering arrangements had once been, operated by outside caterers Ring & Brymer who also catered for the Lord Mayor's banquets. In 1937, as part of the refurbishment the catering facilities at Royal Mint Street the kitchen and canteen facilities had been upgraded and during the modifications to the factory at Tring, provision had been made for a staff canteen. Food was of course very important to the workforce and

⁴⁸⁹ These included *Workers' Playtime* and *Music while you work*, both were BBC daytime radio programmes aired between 1940 and 1967.

⁴⁹⁰ Anon, *Ourselves in War*, p. 208.

⁴⁹¹ Calder, *The People's War*, p. 392.

⁴⁹² Anon, *Ourselves in War*, p. 208.

⁴⁹³ Private conversation, Leopold de Rothschild, 11 Jul 2011; Also see, for an account of the familiar catchphrase, Calder, *The People's War*, p. 335.

⁴⁹⁴ Private conversation, Leopold de Rothschild, 11 Jul 2011.

difficult to manage during the war, and one of the issues that regularly came up at the meeting of the Joint Production Committee.

Figure 13. 'RMR Canteen and Serving counter, 1937'⁴⁹⁵



Joint Production Committee's (JPCs) were one of the Government initiatives introduced in 1942 in factories across Britain to promote better communication between operators and workers and ensure the smooth running of works in an attempt to maximise production levels.⁴⁹⁶ Angus Calder considered the introduction of JPCs, consisting of management and men, as 'superficially one of the most striking manifestations of the war-time social revolution fostered by the supply ministries.'⁴⁹⁷ Nearly four thousand JPCs had been formed by the end of 1943, of which five hundred existed in the engineering and allied industries.⁴⁹⁸ Calder noted

⁴⁹⁵ RAL, 000/848/10/1, RMR 'Still Life', Workman's flat and Canteen and serving counter, 1930s.

⁴⁹⁶ Calder, *The People's War*, p. 397.

⁴⁹⁷ Ibid.

⁴⁹⁸ Ibid., p. 398.

that 'it was in engineering that the committees were most publicised and, probably, most effective.'⁴⁹⁹

The JPC at Rothschild was typical in its makeup. It was formed with representatives from each department across the three operations; Royal Mint Refinery, RMR Engineering and Shield Alloys. Representatives were selected by their fellow workers and served for a year before another employee took their place; departments represented included the metal handlers, mechanics, foundry, rolling department, maintenance staff, billet foundry, and general foundry. The meetings were chaired by Sargant, and management were represented by Belcher, Perry, Kimpton, Flynn and his assistant Linton. On occasion Anthony would attend but generally he received a copy of the monthly minutes. Meetings offered workers a platform to express any concerns they had and to put forward ideas and recommendations for increased productivity. According to Calder 'the scope of the committee was confined by the agreement to matters relating to production and increased efficiency.'⁵⁰⁰ However, he does acknowledge that 'about one in five was going beyond the agreement to discuss such things as piece rates and output bonuses.'⁵⁰¹ In certain factories JPCs aroused interest and enthusiasm and as Calder observed 'it was found that excitement generally ran highest when there was a prospect of the workers' representatives attacking the management, and when the two sides were co-operating successfully, there were often cries that the former had 'sold out'.⁵⁰² There is no evidence in minutes of meetings held by the Rothschild JPC of this type of behaviour but what is of interest is that prior to the formation

⁴⁹⁹ Ibid.

⁵⁰⁰ Ibid.

⁵⁰¹ Ibid., p. 399.

⁵⁰² Ibid.

there is little evidence to suggest workers at the firm had any input into the decision-making process or that their comments and concerns were considered by Partners.

Topics covered by the JPC included the Essential Works Order, whereby members were asked to help management check on absenteeism and lateness, pilfering and checking of lockers, in addition to issues of product rejection, holiday entitlement, and clothing coupons. Additional coupons for industrial clogs and overalls essential for work were sought, which resulted in a representation being made to the Board of Trade to see if extra coupons were available.⁵⁰³ Calder pointed out that through the JPC firms were able to raise problems to external regional boards giving a voice to both management and the worker.⁵⁰⁴ Also on the agenda at Rothschild were the general performance of the business, updates of contract positions, the treatment of gold, and fuel economy; one discussion had included the recommendation put forward by the Ministry of Fuel and Power to reduce the number of hot dishes in the canteens to save on fuel.⁵⁰⁵

The issue of food and the canteens was always high on the JPC monthly agenda, including discussions about the quality and variety of meals on offer and the attitude of catering staff. Facilities at Royal Mint Street meant the canteen catered for 130 to 140 hot meals a day; while at Tring 70 to 80 meals were served daily. Both canteens were operated by an external catering firm, Staff Caterers Ltd.⁵⁰⁶ Rothschild

⁵⁰³ RAL, XI/111/908, 'Joint Production Committee minutes'.

⁵⁰⁴ Calder, *People's War*, p. 399.

⁵⁰⁵ RAL XI/111/908, 'Joint Production Committee minutes'.

⁵⁰⁶ RAL, XI/111/908 'Joint Production Committee minutes', 9 May 1944.

subsidised each canteen with £350 per year, and an additional £2 each week towards the night cook's wages at the Refinery. The cost of a plate of meat and two vegetables was 10d-11d, and an additional 2d-3d was charged for a sweet.⁵⁰⁷ Vegetables grown at Tring Park frequently made it onto the canteen menu.

Rothschild addressed the complaints over the canteen facilities by engaging a report from an independent advisor, George Polltzer, who happened to be an official advisor to the Ministry of Food on industrial canteens. Polltzer's report highlighted a number of concerns. First he reported that the canteen at the Refinery was 'dirty and the whole atmosphere sordid'. Second, he was concerned about the management of both locations. He observed the long queues and the lack of 'imagination or sense of psychology in the way food was prepared and served'.⁵⁰⁸ Polltzer suggested that the catering firm engaged by Rothschild was 'not a good firm' and many of his other clients had already changed firms.⁵⁰⁹ Kimpton reported back to the JPC addressing Polltzer's initial findings and wrote that:

Cleanliness: Impossible to maintain a state of cleanliness. Smoke is continually pouring into the Canteen and the men themselves go up in their working clothes, often without washing. The canteen is not closed for the necessary time to enable the staff to keep the mess room reasonably clean. The kitchen is small and it is inevitable that during the day the floor gets dirty, but I was assured that it was washed over every day.
Food: Complaints mainly over quantities. The amount of meat allowed per head per day is so small that it is inevitable that the portions served to the men are small. The employees are apt to overlook the fact that canteen meals are extra to their ordinary rations and no caterer can serve out what he cannot get. Fish is provided when obtainable and permissible and it is obvious that on the "make up" days meals may be less appetising. There are plenty of vegetables. I am quite satisfied as to the quality of the edibles.
Staff: It is admitted that the type of labour allowed to canteens is mainly drawn from women unsuitable for factory work and even if we change our

⁵⁰⁷ Ibid.

⁵⁰⁸ Ibid.

⁵⁰⁹ Ibid.

caterers the incoming firm have to take over the existing labour with all its defects.

General: Our own employees must be held to blame for the trouble. Their attitude towards the canteen is indefensible.⁵¹⁰

There was some controversy at the May meeting in response to the findings, in particular the comment made by Kimpton that ‘many of our men are unreasonable and greedy’.⁵¹¹ The minutes recorded that it was felt that the ‘psychological situation now existing is not one which can be solved either by improvements, or by any of the remedial measures suggested in the report but only by complete change.’⁵¹² Change was difficult to orchestrate as the contract had a three month notice period and once the wheels were in motion it might lead to the firm being without catering facilities. Also if the contract was cancelled at just one of the Rothschild canteens, for instance London, it was doubtful if the caterers would continue to provide the canteen at Tring, where conditions were aggravated by the isolated situation of the works. Therefore it was agreed that rather than give notice and have to seek alternative arrangements it would be better to make an effort to improve the present service. This was the right choice. It was reported by the June committee that an improvement to the service was recorded and that the problem appeared to have passed. At the Refinery canteen the introduction of a book that recorded ‘Complaints and Appreciations’, which had been completed by a member of the Men’s Canteen Committee for the previous three months, concluded that there were now more ‘ok’s than complaints.’ Sample menus were also presented to the Committee in order to show the variety of food now on offer (see below). Rothschild, despite war-time shortages, managed to ensure that the workforce in London and Tring received at least one hot and nutritious meal a day. Although the idea of a works committee had

⁵¹⁰ Ibid., Report into Canteens prepared by A E Kimpton, 5 May 1944.

⁵¹¹ Ibid., Joint Production Committee minutes, 9 May 1944.

⁵¹² Ibid.

been a Government initiative the fact that the monthly meetings continued into the post-war period showed they had made a positive contribution at Rothschild.

Figure 14. 'RMR Canteen Menu, 1944'⁵¹³

<u>Week-ending April 15th, 1944.</u>			<u>Week-ending April 22nd, 1944.</u>		
<u>SUNDAY</u>	<u>EASTER HOLIDAYS</u>		<u>SUNDAY</u>	Roast Lamb Baked & Boiled Potatoes Savoy Greens	Milk Pudding
<u>MONDAY</u>	<u>EASTER HOLIDAYS</u>		<u>MONDAY</u>	Roast Lamb Baked & Boiled Potatoes Peas	Chocolate Sponge & Custard Milk Pudding
<u>TUESDAY</u>	Roast Beef Yorkshire Pudding Baked & Boiled Potatoes Savoy Greens	Sultana Roll & Custard Milk Pudding	<u>TUESDAY</u>	Roast Pork Stuffing Yorkshire Pudding Baked & Boiled Potatoes Cabbage	Jam Tart Rice Pudding
<u>WEDNESDAY</u>	Roast Pork Roast Lamb Baked & Boiled Potatoes Savoy Greens Stuffing	Jam Tart Milk Pudding	<u>WEDNESDAY</u>	Braised Rabbit & Pork Boiled Potatoes Cabbage	Marmalade Roll Milk Pudding
<u>THURSDAY</u>	Boiled Ham Pease Pudding Boiled Potatoes Haricot Beans	Ginger & Treacle Pudding Rice Pudding	<u>THURSDAY</u>	Roast Veal Stuffing Baked & Boiled Potatoes Cabbage	Jam Roll Milk Pudding
<u>FRIDAY</u>	Fried Cod Fillet Chipped Potatoes	Jam Roll Milk Pudding	<u>FRIDAY</u>	Boiled Ham Boiled Potatoes Pease Pudding	Jam Tart Rice Pudding
<u>SATURDAY</u>	Roast Pork Stuffing Boiled Potatoes Cabbage	Ginger & Treacle Pudding Rice Pudding	<u>SATURDAY</u>	Ham & Tongue Boiled Potatoes Greens	Chocolate Sponge & Custard Milk Pudding

Whilst the operation at Tring prospered and production levels increased, reaching half a million parts a week, work at the refinery in Royal Mint Street proved more volatile. By 1941 the treatment of gold had dipped to an all-time low of 36,159 ounces of gold. Disturbance to the London gold market was echoed in Samuel Montagu's Annual Bullion Review as it noted that there was 'little interest to place on record'.⁵¹⁴ In October 1940, after the fall of France the previous June, it was estimated that the cost of the second year of war would be in the region of £800 million.⁵¹⁵ At the end of September Britain's gold and dollar reserves had reduced to around £222 million and in addition £175 million securities were held, which were

⁵¹³ Source: RAL XI/111/908, Menu Refinery Canteen, 15 Apr and 22 Apr 1944.

⁵¹⁴ Samuel Montagu & Co, Ltd., *Annual Bullion Review*, 1941.

⁵¹⁵ BEA, M5/533, p. 1243.

difficult to sell.⁵¹⁶ Britain required at least £150 million as an essential reserve.⁵¹⁷ In October South Africa and India had been approached for help, but assistance from the United States could not be sought until after the Presidential election in November. India gave up its gold almost immediately; assistance from South Africa was not as forthcoming. In 1940 Britain found it harder to ensure receipt of a steady supply of gold from the Cape, which was of paramount importance in financing the conflict. Unlike the First World War Britain was unable to commandeer South Africa's entire gold production (discussed in chapter 3). Early encouragement to stimulate production in the dominions and colonies was given by the authorities in a bid to maintain a continual steady supply of gold,⁵¹⁸ but South Africa was not part of these early discussions, which clearly undermined Britain's relationship to gold from the Cape. One reason for the oversight was offered in a memorandum to the Bank of England Bullion Office in July 1941, when it was observed that it had been 'taken for granted that the South African government policy was neither to allow output to fall below about 14.5 million fine ounces a year not to increase it by concentrating upon high-paying ores or other ultimately wasteful means.'⁵¹⁹ Another view taken by the Colonial Office had been that the importance of gold as a dollar earner should not be exaggerated and that other minerals such as manganese, tin, bauxite and oil, might be just as valuable.

In 1941 British diplomatic relations with South Africa were high on the agenda as the new High Commissioner Lord Harlech took up his post. Part of the brief prepared for him by the Treasury and Bank of England outlined some of the

⁵¹⁶ Ibid.

⁵¹⁷ Ibid.

⁵¹⁸ BEA, M5/534, p. 397.

⁵¹⁹ Ibid.

difficulties Britain faced and put forward four ways that South Africa could contribute to Britain's war effort. The first was to sell the whole of the current gold production for sterling. The second was to impose severe restrictions on imports from non-sterling countries. The third was to tighten up the administration of exchange controls, as it was felt that the existing way increased the risk of a flight of capital from 'the pound sterling into the South African pound and thence in the United States dollar'. The final way was deemed as being 'of very special importance' and involved the revaluation of the gold holding of the South African Reserve Bank, then still at 84s an ounce. By law the Reserve Bank was obliged to hold in gold or specie a reserve of at least 30 per cent of its sight liabilities. If gold was to be revalued at the London price of 168s an ounce, it meant that a large proportion of the gold held in reserve could be released and sold for sterling, which would be 'of the utmost help to us'.⁵²⁰ Behind the desperate tone of the brief lay the fact that Britain's gold and dollar reserves were almost exhausted, and those stocks needed to be replenished in order to maintain an adequate working balance. The Union Government had rejected a similar proposal made in October 1940 as being 'politically impossible'. Talks between Lord Harlech, Jan Hofmeyr, South African Minister of Finance (1939-1948), and Johannes Postmus, Governor of the South African Reserve Bank (1932-1945), who were both said to be 'intensely conservative and orthodox, as well as nationalistic' proceeded and it was observed that the Government seemed 'far from enthusiastic' about alleviating Britain's plight.⁵²¹

⁵²⁰ BEA, M5/536, p. 1245.

⁵²¹ Ibid., p. 1249.

South Africa ‘consciously and deliberately’ remained on the gold standard, whilst nominally being a member of the Sterling Area.⁵²² Britain, as bankers of the Sterling Area, was liable to be called upon to provide gold to meet the international commitments of its members, and as such it felt that it should be ‘entitled’ to the custody of the Empire’s centralised reserves in gold. However, following the First World War there was a marked reluctance by South Africa to bank with the Bank of England and to sell more gold than needed to meet international liabilities. Any surplus was retained by South Africa, as a national store of value for international purposes. Canada was put forward by Britain as the example for South Africa to follow. It was suggested that gold should be treated more as a commodity for export and that it should sell as much of it to Britain as possible for sterling, and that the store of gold kept for international liabilities should be as small as possible for the duration of the war. It was observed that:

South Africa is certainly doing less than she could to help us to meeting the financial strain of our common war effort, but the matter is very delicate because the opposition in South Africa are constantly representing the Union as being in financial chains to this country and are doing their utmost to argue that the Union should be detached from any form of financial dependence on us, and, in particular, that the South African pound should no longer be linked with the pound sterling.⁵²³

Through the intervention of General Smuts’, who was sympathetic to Britain’s plight, some temporary assistance was provided. However, out of the 14 million ounces of gold produced in South African during the first year of war only 10

⁵²² Ibid., p. 1244; During the Second World War, and its immediate aftermath, sterling was an inconvertible, ‘soft currency’. The sterling area emerged as a measure of cooperation in exchange control matters between a group of countries, which at the time were mostly dominions and colonies of the British Empire. These countries either used sterling as their currency or else their own currency was pegged to the British pound; even member countries with their own currency, for the purposes of conducting overseas trade, held large sterling balances in London. The purpose of the sterling area was to protect the external value of the pound sterling. All of the British Empire except for Canada, Newfoundland and Hong Kong joined the sterling area in 1939. See, for example, Nicolas J. White, *Decolonisation: The British Experience Since 1945* (London: Longman, 1999).

⁵²³ Ibid., p. 1245.

million ounces had been sold to Britain.⁵²⁴ In addition Britain thought that South Africa had also spent too much on imports from the United States and was believed to have an inadequate Exchange Control.

The international situation meant that there was a drastic curtailment of gold and silver at the Royal Mint Refinery and almost 20 non-skilled men lost their jobs. On the outbreak of war Rothschild and Johnson Matthey had been forced to announce an increase of 20 per cent on their usual treatment charges.⁵²⁵ A further 20 per cent increase came in February 1940 and another in December 1941 when a war surcharge of 45 per cent was announced by both refiners (see table below).⁵²⁶

Table 8. 'London Gold Refining Charges, 1905 to 1941'

Gold Refining charge Assay (oz)	16.1.1905	11.2.1915	1.10.1919	1.5.1923	22.11.1939	1.2.1940	1.12.1941
800/1000	3d	4d	3d	2d		2d + 20%	2d + 45%
700/800	3d	4d	3d	2 ¼ d		2 ¼ d + 20%	2 ¼ d + 45%
Under 700	3d	4d	3d	2 ½ d		2 ½ d + 20%	2 ½ d + 45%
Melting Over 500	¼ d				½ d + 20%		
Combined gold & silver under 500 + Melting charges							
Small amounts under 250				+ 50%		+ 50%	+ 50%

Source: Compiled from information Bank of England, C52/22, 'Charges for Gold Refining from 1905 to 1941'.

Rising costs of fuel, materials, wages, and transport were blamed for the necessary review in charges. A small improvement at the Rothschild refinery was recorded in 1942 as gold treated amounted to 470,000 ounces, and levels continued to increase over the next three years to around 1,000,000 ounces of gold. The

⁵²⁴ Ibid., p. 1244

⁵²⁵ BEA, C52/22, Melting & refining of gold bar, 'RMR to Chief Cashier, Bullion Department', 22 Nov 1939.

⁵²⁶ Ibid., 10 Jan 1940 and 24 Nov 1941.

reprieve was the result of a scheme initiated by Rothschild, on behalf of the Bank of England and Treasury for the production and sale of small gold bars, mainly 5 and 10 tola bars, destined for the Middle and Far East markets. Following the outbreak of war the British export ban on gold meant that the manufacture and sale of these popular smaller bars had been suspended. The reintroduction and sale of smaller bars was conceived as an anti-inflationary measure.

The rise in inflation in the Middle East, a result of the large number of allied troops posted to the area, had pushed up local prices. In an attempt to keep inflation levels low British and Empire troops stationed in Egypt were paid in Egyptian pounds. A ban by the Egyptian government on imports, the shortage of staple goods and scarcity of cereal crops had driven up costs in the local economy and provided a much needed boost to local industry.⁵²⁷ By mid 1942 in Egypt the danger from war had passed and Cairo, the capital, had become a vital pivot in the Allied war machine. The last two months of 1942 saw the arrival of American troops in Cairo. At the start of 1943 there were just over 1,000 American service personnel compared to 126,000 British and Dominion. Artemis Cooper explained that the impact the American troops had on the economy was ‘out of all proportion to their numbers.’⁵²⁸ Accommodation and staple foods were prized commodities, and the ‘cash rich’ American troops drove prices up further and placed additional pressure on the local economy. Cooper noted that prices had increased by two-thirds since 1939 and showed no sign of descending.⁵²⁹

⁵²⁷ See, for example, BEA, OV73/1, Middle East – General, 1942-1944.

⁵²⁸ Artemis Cooper, *Cairo in the War, 1939-1945* (London: Penguin Books, 1995), p.233.

⁵²⁹ *Ibid.*, p.325.

Rothschild became involved when Governor Norman approached them to see if Kimpton, who for a number of years had chaired the London Gold Fix until the suspension of the market in 1939, could be spared to establish a base in Cairo from where the Bank of England could sell gold bars produced by Rothschild and Johnson Matthey. Rothschild was happy to oblige. Kimpton accepted the assignment and his duties were passed on to his deputy Bill Williams. Kimpton set sail on a fast cruiser arriving in Cairo in August 1943. Prior to his departure preliminary arrangements for the manufacture, weighing and packaging of a first consignment of small ingots had been made with Rothschild and Johnson Matthey. Although it had been Rothschild's suggestion to manufacture and reintroduce the sale of small gold bars Governor Norman had been keen that the production was divided equally between the two firms. Each was to produce 3,000 bars a day that ranged between five ounce and ten tola bars. Strict guidelines were set down by the Bank for the appearance of the bars, which were to be delivered without the refiner's mark and had to be presented in a plain wrapper that did not bear the weight or any other marking. Boxes were to be of a size sufficient to contain approximately 1,000 ounces each, gross weight, including box and banding to be about 75lbs. Each box contained the same size bars and the weight inside would be denoted by A, B or C; A. equalled 200 five ounce bars, B. equalled 250 ten tola bars and C. equalled 500 five tola bars. The address for each consignment was to be stencilled onto each box and a copper crate banding applied both ways. To avoid re-examination of the bars after delivery at the Bank of England, a representative of the Bank was to observe the weighing and packing of the bars prior to being dispatched by the Refinery. The Bank supplied the wood for the boxes and also the copper banding.⁵³⁰

⁵³⁰ RAL, XI/35/72, Egypt Gold 1943, 'L J Menzies, Bank of England Bullion Department, to W Williams, Royal Mint Refinery', 22 Jul 1943.

Kimpton, on setting sail for Cairo, had been unaware of the finer details of his mission. He knew that he was to work out of the Office of the Minister of State but he was unsure what lay ahead of him or exactly how much work was involved. Captain France, already in Cairo working for the Minister of State, was to assist him and in addition a suitable assistant would be appointed in London and sent out at the earliest opportunity. The duties of the assistant would be to arrange for the custody and movement of bullion, co-ordinating with the naval, military and air authorities for facilities required. The assistant would also supervise records of sales, prices, stocks, shipments, etc. The Treasury were willing to pay the suitable candidate up to £750 per year and in addition offered a tax free allowance of £300 for 'a suitable man with the right qualifications'.⁵³¹ Regular letters from London sent by Anthony and Norman Raven, head of the bullion department at New Court, kept Kimpton informed of operations in London and Tring. In return correspondence Kimpton kept Rothschild abreast of developments in the Middle East. He frequently wrote of his difficulty in acclimatising to the heat of Cairo, and the sleep deprivation he suffered from. He also constantly complained about the lack of official communication he received from London about the project, and the length of time he was expected to remain in Egypt. He was adamant that he should be back in London by Christmas.

During his time in Egypt Kimpton was free to move around the Middle East and attended conferences in Palestine and Syria. He was able to explain the Bank of England's policy to its representatives in the territories, whom he reported as being

⁵³¹ Ibid., 'E M H Lloyd, Offices of the War Cabinet to A E Kimpton, Royal Mint Refinery', 13 Jul 1943.

an ‘intelligent and co-operative lot of men’.⁵³² By the end of September, in a letter informing Anthony of the success of his mission, Kimpton observed that:

I have been here over 2 months, and it has become quite clear that in the first place the men here, as well as those in the territories, are not such a lot of amateurs as the Governor feared and that there is no justification for my continued presence in Egypt. Such questions as are likely to arise when I return home and can be settled in London now that I have the local colour. Mr Casey in agreeing to the idea of putting a period to my stay is kind enough to say that it is not so much that I am able to do anything special here but that the moral support I have been able to afford everybody in connection with the sales of gold has justified my coming out. I am banking on being able to start sales in Egypt in the near future and this of course depends on the receipt of supplies of small bars especially made for Egypt.⁵³³

There was to be a three-month trial but early expectations for orders of the small gold bars were quickly exceeded. Anthony informed Kimpton that orders from the Bank of England had been received and that they would keep the Refinery going until the end of October, although if Kimpton’s initial indications proved right then the refinery would be fully occupied until the end of the year.⁵³⁴ Anthony felt Kimpton would be amused to hear that ‘Johnson Matthey – who at first complained of the job and of having to take their men away from other work – when we suggested that we would be ready to help them and do a bigger share of the whole, were not at all interested and said they had now made arrangements which were convenient to themselves.’⁵³⁵ Anthony also thought that Kimpton would be amused to hear that Rothschild had received news from a contact in Tel Aviv ‘telling us there had recently been some small bars marked with our name in their market’ and wanting to know when, where and how many had been produced.⁵³⁶ Anthony

⁵³² Ibid., ‘A E Kimpton, Office of the Minister of State, Cairo to G Bolton, Bullion Office Bank of England’, 16 Sep 1943.

⁵³³ Ibid., 22 Sep 1943.

⁵³⁴ Ibid., ‘Anthony de Rothschild to A E Kimpton’, 23 Sep 1943.

⁵³⁵ Ibid.

⁵³⁶ Ibid.

confirmed that a cautious reply had been sent.⁵³⁷ News of the forthcoming sales had become widespread.

Late in September 1943 Kimpton's own frustrations spilled over in one of his letters to Norman. Kimpton wrote that whilst he had no difficulty in establishing the system for sales of the bars he was now 'perturbed at the lack of co-operation on the part of the Treasury as regards the second part of my mission viz: sales of gold in Egypt', these could not begin until ample supplies of small bars had been received.⁵³⁸ Despite repeat cables to the Treasury for information about any possible objections to the sale on part of the Egyptian Government he had received no response. Kimpton asked Norman to intervene and remind the Treasury that 'by their own actions they are postponing and possible jeopardising the success of the whole project.'⁵³⁹ Kimpton finally received coherent instructions from the Treasury, via Bolton at the Bank of England. Initial indications were that there would be a bigger demand for small gold bars. By the end of October the Treasury had placed a second order with Rothschild and a third smaller order. Kimpton booked his return passage to London departing in mid-November and looked forward to getting back to his wife, who was in poor health.

At the point of Kimpton's departure it was unknown whether the manufacture of small bars would continue. An air of secrecy surrounded their sale and no official announcement was made. This was partly as the Treasury were unsure of the

⁵³⁷ Ibid.

⁵³⁸ Ibid., 'A E Kimpton, N M Rothschild & Sons to Governor Montagu Norman, Bank of England', 27 Sep 1943.

⁵³⁹ Ibid.

reactions from the dominions, and in particular from the South African Reserve Bank. The United States Treasury participated in the project and although it had been hesitant at first, seemed pleased with the arrangement.⁵⁴⁰ The Bank pressed for further consultation with South Africa so clarification for a policy to follow could be agreed. Eventually the matter was raised with the South African government during a visit by General Smuts to London.⁵⁴¹ Subsequent correspondence reveals the concern and dissatisfaction of the South African government and mining industry, who challenged and objected to the scheme. After the initial three-month trial the sale of small gold bars was discontinued, but the wrangle over the sale of South African gold continued. Kimpton's efforts in Cairo did not go unrewarded and at the end of the war the Order of the British Empire was bestowed on him. Kimpton, in one of his final letters sent to Anthony from Cairo, observed that 'one of my first jobs on my return will be to endeavour to get settled a long-term policy instead of this hand to mouth existence which we are now having.'⁵⁴²

In January 1944 Kimpton returned to work and there were a number of matters at Tring and Royal Mint Street waiting for him. Just as things began to get back to normal at the Refinery, staff had to contend with a new bombing campaign. Flying bombs, Germany's new arsenal of V1 and V2 bombs, started to drop on London in June 1944.⁵⁴³ Sir Cuthbert Headlam, in his diary entries, captured the mood in London. On 19 June he described an aerial assault he witnessed on London '2 of these beastly [V1] robots in the air this morning. They go at a terrific pace.'⁵⁴⁴ He

⁵⁴⁰ BEA, M5/534, p. 492.

⁵⁴¹ Ibid., p. 497.

⁵⁴² RAL, XI/35/72, 'A E Kimpton to Anthony de Rothschild', 6 Nov 1943.

⁵⁴³ Kynaston, *The City of London: Vol 3*, p. 506.

⁵⁴⁴ Stuart Ball (ed.), *Parliament and Politics in the age of Churchill and Attlee, The Headlam Diaries 1935-1951* (London: Cambridge University Press, 1999), p. 409.

went onto describe the effects they had on life in London ‘the raids go on day and night and I fancy that the damage done already is pretty considerable. The morale of the people, too, is a bit shaken – crowds of people are said to be leaving London.’⁵⁴⁵ A couple of months later, after the introduction of the German V2 ⁵⁴⁶ Headlam wrote ‘I don’t like V2 a bit- it is rather uncanny to feel that at any moment it may drop unannounced from the sky and extinguish you... One hears of V2 plumping down two or three times a day and I gather that it makes a beastly mess where it falls – but so far it has not done anything like the damage done by V1.’⁵⁴⁷ A V1 bomb fell in Cartwright Street close to the Refinery sometime in 1944. Godfrey Hunt was visiting his father at the time and described the day’s events:

Afterwards we went to examine any damage, there was some. Ken Belcher was phoned and he later came up from home. Later also was the telegram from the Partners about the damage. Such a long telegram it amazed me, being accustomed the usual few words on a GPO telegram.⁵⁴⁸

Matters at the Refinery began to improve from March 1944. Kimpton had brokered a deal to purchase the James Royce Electric Furnaces Ltd and Electric Furnace Company Ltd (Royce) on behalf of Rothschild. Royce had business premises at Chiswick that had been destroyed during an enemy raid in mid-February. Rothschild stepped in to assist the firm, which had been an essential supplier of furnaces and ancillary equipment to Rothschild.

The purchase made good economic sense for at the time of the takeover Royce had a full order book, including a number of unexecuted orders for the Admiralty,

⁵⁴⁵ Ibid., p. 410.

⁵⁴⁶ Ibid., p. 431; The V2 was the successor to V1. The V2 was a chemical fuelled rocket, which had a longer range and could reach London from sites in Northern Germany it travelled faster than the speed of sound and thus gave no warning of its approach.

⁵⁴⁷ Ibid.

⁵⁴⁸ RAL, 000/1312, ‘A G Hunt to Spencer Richards’, 23 Sep 1994.

which were valued in the region of £10,000. The purchase also included additional land at Chertsey. Part of the deal included the employment of the former owner, Mr Royce, as Technical Manager for the Furnaces Branch of the Refinery at a salary of £1,000 per annum and a commission of ten per cent on the net profits of the Branch.⁵⁴⁹ His duties included soliciting for new business and providing advice to prospective customers. However, Royce was not authorised to conclude contracts without the authority of the manager of the Refinery.⁵⁵⁰ The contract stipulated that if the contract was terminated future activities at Royce would be curtailed in relation to contacting customers and commercial associates. The agreement continued for several years. Electric furnaces were produced in tandem between London and Tring and were sold under the name of James Royce Branch. In November 1946 Mr Royce was in the position to buy back the business from Rothschild. The sale was agreed and terms included all the stock in trade and company assets, and the company car Mr Royce used. The deal was finalised in January 1947. The amount raised by the sale is unknown. However, Rothschild no doubt had made a profit from the deal and both companies found it mutually beneficial, for the additional work generated by the take-over in 1944 had guaranteed orders for the Rothschild ventures at a time when work had significantly declined and government orders had started to be cancelled.

Rothschild considered the problem of declining government orders ‘urgent’ enough in 1944 to raise their concerns with the Ministry of Supply, headed by Oliver Lyttelton. Rothschild proposed a plan to Lyttelton that would ensure machinery at

⁵⁴⁹ RAL, XI/000/301, packet 917, ‘Memorandum of Agreement NM Rothschild & Sons and James Royce Electric Furnaces Ltd. And Electric Furnace Company Ltd.’, 10 Oct 1944.

⁵⁵⁰ Ibid.

the Refinery was not left idle, and the remaining men employed by them would be engaged in the treatment of nonferrous metals, swarfs, turnings, scrap etc. Rothschild asked Lyttelton to release the metals for treatment, which could then be melted into ingots and stored until required for post-war purposes or export.⁵⁵¹ An internal report produced at the Refinery recorded that:

Whilst the Board of Trade has circularised certain firms offering to consider the question of permitting labour and material to be used for the manufacture of prototypes for post-war use at home or for export, this does not go far enough now, and in any case the Board of Trade is not equipped or in possession of the necessary information as to labour and materials to enable to deal adequately with the position.⁵⁵²

The Royal Mint Refinery and RMR (Engineering) at Tring were heading towards a turbulent period and it became increasingly apparent at Rothschild that it would be necessary to prepare a post-war trading plan and also consider how and indeed if the Refinery and factory would continue to operate once the conflict ended.

Investigations into new processes, techniques and viability at both locations began. Special attention was paid to the factory at Tring and whether it could be converted to a profitable concern once peace returned.

In conclusion Rothschild rose to the challenge set down by the British government and successfully converted the operation at the Royal Mint Refinery to the production of munitions. Taking advantage of government incentives, Rothschild established, equipped and staffed a new factory away from London. In London the workforce underwent periods of severe difficulty as they manned the Refinery and protected it during German bombing raids on the City. Work continued; staff lived, worked and carried out additional duties in the most appalling conditions and freely

⁵⁵¹ RAL, XI/111/908, Correspondence May 1943 to Jun 1944, 'Anthony Rothschild to Oliver Lyttelton', 16 Oct 1944.

⁵⁵² Ibid., Memorandum 'Work at RMR', undated.

put their own lives at risk as they ensured the operation continued. Gold continued to be treated at the Refinery, although in vastly reduced quantities, and the operation served the needs of industry and the Bank of England.

In 1943 the expertise of staff was utilised by the Bank for the Egyptian small bars scheme, and as new markets formed the pace of work increased again, which came just at the right time for Rothschild as it considered the future of the Refinery. Unfortunately, although a success the Bank decided to discontinue the scheme rather than run the risk of upsetting the South African government. Gold treatment had been in decline before the outbreak of war. In opting to convert the operation and moved into the production of munitions Rothschild showed it was prepared to invest in the future of the Refinery. It embraced change as new plant and machinery were purchased, renovations made and greater investments in scientific experiment projects.

In addition Rothschild successfully established a new factory at Tring, despite wartime restrictions and difficulties in engaging and retaining staff. The venture exceeded the targets laid down in government contracts and the machinery remained busy. Following the death of Lionel de Rothschild in 1942 Anthony became the sole partner and single-handedly steered the bank through the remainder of the conflict. It placed a heavy burden on him. As working patterns and methods changed he adopted a new style of management at Rothschild. He became more dependent on Kimpton, Williams, Hunt, Belcher and Flynn, who took on greater roles and responsibility in their areas of expertise. Through the Joint Production Committee the workforce had

a greater involvement in the decision-making process at the Refinery and factory. It is hard to quantify the success of the JPC or the impact this had on production levels at either location, but what is evident is that employees did have a voice and frequently experienced the benefits of staff representation. In the post-war period the committee continued to meet monthly.

In the later stages of war the purchase of the Royce operation was no doubt a calculated move. Rothschild was able to take advantage of uncompleted orders to fill the void left following a general downturn and cancellation of government contracts. The work Royce held averted the need for the disbursement of the machinery at Tring by Government officials to companies still holding contracts. The war-time experience at Rothschild was not unique. In comparison to some of the large shadow factories established across the country that had thousands of workers Rothschild was small. But as in other ventures the plant at Rothschild worked 24 hours a day producing munitions for Government orders. The passage of years proved only how great the staying power of the British workforce was. Tring had been a great success during the war, but once readjustment plans began to form it is surprising that there was no hesitation in including it in these. How the operation fitted into the overall business venture of Rothschild is the subject of the chapter 7.

Chapter 7

‘Work, Food & Houses’, 1944-1949

This chapter explores the transition of the Royal Mint Refinery from trading in war to peace. Hit by the scaling back of Government munitions contracts and bound by the continued war-time restrictions imposed on industry, the management at Rothschild had the task of seeking out markets that required new products which could be manufactured at the Refinery in London and factory in Tring. The period of transition proved a turbulent time for both operations; strict financial controls were put in place and the services of a commercial sales agent engaged. Either of the sites could have failed. However, by 1948 both had been transformed into viable commercial concerns with a secure outlook. The chapter provides an insight into the approaches adopted by Rothschild to these challenges. First a review of the business in 1944 will be undertaken. Second the immediate problems faced by the two operations will be identified and the options available to them explored. Finally, with the end of the war longer term problems existed such as restrictions in the movement and sale of gold, both of which were beyond Rothschild’s control. How the firm adjusted to its new trading position in the post-war period will be considered.

Winston Churchill summed up the British post-war programme for reconstruction in three words: ‘work, food and houses’.⁵⁵³ Plans for the transition from war to peace began at least eighteen months prior to the end of hostilities. Government contracts for the production of munitions were scaled down and labour redeployed. There was

⁵⁵³ Mary E. Murphy, 'British Postwar Planning' *American Journal of Economics and Sociology*, 4 (Jul 1945), 421-439 (p. 421).

no large blueprint for the reconversion of British industry, and a laissez faire attitude took hold. It was recognised that the key prerequisites for Britain's post-war prosperity would be the revival and expansion of its export trades.⁵⁵⁴ In March 1943 the Bank of England formed a Committee tasked with considering the best approach to meet the country's post-war financial needs. The Committee deliberated over measures necessary for an effective control of the economy; these included the demand for and allocation of capital together with the co-ordination of materials, especially for new industries, the encouragement of full employment and the continued advance of industrial research.⁵⁵⁵ The Committee also assumed that during the difficult period of readjustment the maintenance of low interest rates would be required, as would the stability of commodity prices.⁵⁵⁶ In preparation John Maynard Keynes led the British delegation to the United Nations Monetary and Financial Conference held in the United States in July 1944 and put forward his plan for an international clearing union. The outcome was the 1944 Bretton Woods Agreement, which provided a formal framework intended to solve the three critical problems of a system of international payments, liquidity, confidence and adjustment.⁵⁵⁷ The Agreement provided a fixed exchange rate and a gold exchange standard under which currencies were exchanged into gold at stable rates. Initially it was thought that newly mined gold would be the main source of new international liquidity. However, it quickly became apparent this would be impracticable, when it became necessary to economise on the use of gold. In practice, this meant the US dollar became the new basis for international liquidity because the US Treasury were prepared to buy or sell gold to central banks at \$35 an ounce, making dollars and

⁵⁵⁴ Giuseppi, *The Bank of England*, pp. 180-1.

⁵⁵⁵ Ibid.

⁵⁵⁶ Ibid.

⁵⁵⁷ Weston, *Gold: A World Survey*, p. 8.

gold interchangeable.⁵⁵⁸ John Guiseppi observed that ‘the Bank of England was never sympathetic to the Bretton Woods proposals: At that time it was far more concerned with immediate post war problems than with the far-reaching schemes’.⁵⁵⁹

The success and failure of government planning was recorded by Peter Hennessy *Never Again*, which examined the immediate post-war period. One key failure highlighted by Hennessy was the introduction of the Economic Planning Board, which he holds up as ‘an example of British machinery-of-government ad hocery at its worst. Nobody – not Government, industry, trade unions or Whitehall – ever really knew what it was for.’⁵⁶⁰ Information about Government intentions for industry was difficult to obtain and was slow to filter down to those in business. In planning the realignment of business at the Royal Mint Refinery information was essential to Rothschild’s decision-making. The sources of information and its availability were all factors that affected thinking at the time and influenced the route taken to recovery. By 1944, Anthony de Rothschild, who for most of the war was the sole Partner of N M Rothschild & Sons, would have been bombarded with decisions and no doubt suffered from decision fatigue. It was Anthony who headed the internal-committee for recovery of at Rothschild and its many investments and enterprises. He was joined by his nephew Edmund, son of Lionel, in 1947 by which time the transition was already underway. Anthony was assisted by an able management team led by Arthur Kimpton, general manager at Rothschild, who had delayed his retirement until 1946 so he could assist with the realignment, after which

⁵⁵⁸ Timothy Green, ‘Central Bank Gold Reserves: An historical perspective since 1945’ *World Gold Council, Research Study 23* (1999), p. 14.

⁵⁵⁹ Giuseppe, *The Bank of England*, p. 191; Giuseppe also reminded readers that ‘ratification of the Bretton Woods Agreement by Britain was one of the conditions attached to the granting of an American loan of \$3,750 million needed so sorely by a country drained of its resources by long years of war.’

⁵⁶⁰ Peter Hennessy, *Never Again Britain, 1945-1951* (London: Penguin Books, 2006), p. 378.

point he continued to play an active role in company affairs as an advisor to his former colleagues. Bill Williams managed the Refinery and John Flynn managed the factory at Tring. A good internal communication network between New Court, Royal Mint Street and Tring had developed during the conflict, partly due to increased levels of government bureaucracy, and this continued ensuring that all parties were kept regularly informed and updated.

In 1944 one of the immediate concerns that faced Rothschild was the future viability of the Royal Mint Refinery. The operation had changed considerably since its pre-war existence. The main activity was now the melting and rolling of metals for industry. Whilst the refining and treatment of gold and silver had returned latterly in the form of small bars of gold for the Bank of England, these activities were in the minority. The outlook for bullion treatment in London was bleak; no plans to re-open the London gold market existed and it remained closed until 1954. In addition gold continued to be subject to government export and import restrictions. The outlook for the factory at Tring seemed no better. The operation had been formed to meet the needs of government and designed for the sole purpose of the production of munitions. As the end of war approached the main decision was whether the operation could be converted to produce products that might compete in the highly competitive light engineering sector.

Work at the Refinery began to reduce from September 1943 as government contracts were scaled back. The main concern for Rothschild was to keep the

workforce employed, so other firms were contacted and offered the spare capacity.⁵⁶¹

Over the next year the situation deteriorated further. A number of the munitions contracts awarded to Rothschild had not been renewed. Rothschild was frustrated by the lack of official information received following the cancellations and its inability therefore to form a plan to hold onto key skilled employees.⁵⁶² Kimpton was dispatched to a trade conference in Harrogate as part of a fact-finding mission to learn more about government planning. He reported back to New Court that he had been ‘fortunate that the first official approached proved able and willing to furnish me with most of the information we require and probably all that could be given at the present time.’⁵⁶³ The informant confirmed what had already been gleaned by Rothschild, through unofficial channels, that the Government were concerned with problems of post-war production and the future of ‘shadow’ factories and the future of factories in general was regarded as most important. Planning was at an exploratory stage and no final decisions had been reached. Kimpton was asked to regard the information as confidential as ‘it would be disastrous if any details were published which would embarrass the Government in view of the intention they have of making a statement as soon as possible on the whole position.’⁵⁶⁴

The informant told Kimpton that the post-war plan would fall into three stages. The first concerned the termination of war in Europe, the winding up of contracts for stores not required for the next stage and the arrangements necessary for closing down unneeded production capacity. It was said that ‘so much importance is attached to this process, that a special Assistant Director is being detached, who will

⁵⁶¹ RAL, XI/111/908, Draft Letter, 17 Sep 1943.

⁵⁶² Ibid., Memorandum ‘termination of contracts’, Sep 1944.

⁵⁶³ RAL, XI/111/908, ‘Memorandum on the visit of Messrs. Kimpton and Barsham to Harrogate’, 21 Sep 1944.

⁵⁶⁴ Ibid.

devote his whole time to it.⁵⁶⁵ Rothschild was more concerned to learn if they would have the opportunity to secure the surplus of raw materials held by the firm once contracts were terminated. On this point it was suggested the plan was that ‘contractors would either be directed to transfer such surplus to other contractors who needed them, or the contractor would be asked if he would like to buy them at an agreed price for use in his own civil business.’⁵⁶⁶ In addition it was observed that ‘where contractors were working to a long-term schedule they were advised not to produce too far ahead of it, though it was recognised that it was often not possible to produce each month’s part of the scheduled quantity within a particular month.’⁵⁶⁷

The second stage concerned production for the Japanese war. The main problems that arose from this stage would be the quantities needed and which firms would manufacture them. The third stage concerned peace-time production. The government official led Kimpton to believe that post-war requirements would be greater than pre-war, although at the time no estimate was available and was totally dependent upon government policy. Firms of contractors were to be categorised. The first classification was those firms whose peace-time manufacturing capacity had been diverted to war production and who would wish to revert as soon as possible to their normal work. The second consisted of firms who had been pre-war government suppliers and would wish to continue as such. The third were those firms brought into being either by private enterprise or with Government assistance which had no pre-war background. The Rothschild operations fell into the second category at the Refinery, and third at the factory. Kimpton learnt that price, quality and delivery would have a bearing on the future allocation of contracts in stages two and three. In addition, labour supply and location of the factory would be taken into account. The

⁵⁶⁵ Ibid.

⁵⁶⁶ Ibid.

⁵⁶⁷ Ibid.

official also expressed the opinion that in the case of factories, similar to Tring, which had received government finance, whether wholly or partly, it might be more economical to keep them going than to shut them down.

It was on the basis of this new information that the decision to continue both operations was made. The war-time transition had increased the range of products made at the Royal Mint Refinery, which now included plated wires of all kind, previously only produced in the United States. For example, copper, manganese-nickel and tungsten were plated with gold, silver, platinum or nickel in thicknesses to suit the requirements of industry. The base metal foundry produced thousands of tons of brass billets, cupro-nickel and gilding metal rolling slabs.⁵⁶⁸ Kimpton was of the opinion that ‘in view of the importance of our gold and silver work it must be decided whether it would be best to abandon any other form of melting metal.’⁵⁶⁹ However, at that point the most viable option was to continue, especially whilst uncertainty hung over the treatment of precious metals with no guarantee such work would return in sufficient quantities to render it economically viable. It was only much later that it became apparent that the heyday of gold refining at the Refinery had passed.

On 17 April 1945 the first formal post-war planning meeting took place at Royal Mint Street between Anthony and senior staff from both operations assembled to discuss the issues affecting business; Kimpton, Williams, Flynn, Sargant, Belcher, Perry, Steel and Barsham. On the agenda were a range of concerns; these included

⁵⁶⁸ RAL, 148/29, Draft of article by Ken Belcher for *The Times* ‘Review of Industry’, 13 Oct 1952.

⁵⁶⁹ RAL, 111/908, Memorandum on the visit Kimpton and Barsham to Harrogate, 21 Sep 1944.

labour, work in hand, future prospects of attracting new contracts, and the possible relocation and adaption of machinery. The importance of attracting new business, especially products for export, was emphasised and action points agreed. These included the need to produce a list of firms, industrials, and government agents who might be approached with a view to obtain business. Once the list was available it could then be divided into various categories such as 1. where New Court could approach at a high level; 2. where the Royal Mint Refinery had contacts; 3. those who could only be approached by letter. It was agreed that Anthony would take the lead in the acquisition of new orders, working closely with Kimpton. It was decided that it would be advantageous to hold a monthly conference so progress could be fed back to the post-war planning committee; this was in addition to the Joint Production Committee (JPC) discussed in chapter 6 that continued to meet monthly after the war ended.⁵⁷⁰ Each department was asked to provide a report stating the present position of work and future outlook.

The report produced by the Brass Strip Annealing department revealed that it anticipated a future complication in the pricing structure of products. When the annealing plant had been installed at the Refinery at the beginning of the war rather than connect to town gas, requested by the Ministry of Supply as a protective measure, Rothschild opted to connect to the more expensive ICI Burner Plant, as it was thought it provided better results for melting at high temperatures, and at the time it was more appropriate. Unfortunately the decision was flawed. The ICI plant had not provided satisfactory results. During the war when a set price was paid for goods, it had not been of great significance. However, in a competitive market the

⁵⁷⁰ RAL, XI/111/908, Special Correspondence RMR, Minutes of Conference held at RMR, 17 Apr 1945.

additional production cost could render the product uncompetitive. Further investigation revealed that even if Rothschild transferred to a cheaper process the method would be slower and could affect output. Rothschild faced stiff competition and had already been made aware that a contract to provide three tons per week was about to be made available. The problem took precedence as it was predicted that there would be 'considerable liveliness' in the brass strip market.⁵⁷¹ The solution put forward was the adaptation of an idle machine, which could be altered to speed up the process. Enfield Rolling Mills, with whom Rothschild had a very good working relationship, held up all enquiries for brass strip for three months until Rothschild was in a position to take on production.⁵⁷²

Another area of potential development for the operation was the treatment of residue, which Rothschild had advanced during the war. A proposal to extend the treatment of scrap metal and skimmings was put forward to Anthony by staff at the Refinery. The proposal showed understanding of post-war economic conditions and the need to build a favourable balance of trade for Britain by reducing imports and increasing the value of exports. It observed that in 1945 a shortage of treatment plants existed, and an accumulation of material requiring treatment had built up. Britain had continually imported virgin metals and exported the bulk of the scrap and residue. Prior to 1939 labour costs on the continent had discouraged British refiners from treating scrap metal. Germany had been only too happy to acquire metal at cheap prices and to use surplus labour to convert it. During the war the position changed, and as various plants in Britain were unable to cope with the amount of residues and contaminated scrap Rothschild saw a gap in the market. Industrial

⁵⁷¹ RAL, XI/111/908, Report 'Present Position of Brass Strip Annealing', 20 Mar 1945.

⁵⁷² Ibid.

intelligence suggested that the main refiner of swarf, Bolton & McKechnie, were reluctant to treat any material containing less than 40 per cent of copper and that there were a number of large dumps of scrap material around the country.⁵⁷³ The same source had suggested to Rothschild that the Government would restrict the free export of scrap after the war and insist that the metal only be exported in a fabricated form, so that the full value would be obtained. The report considered that even in the event of a change of government the policy would still be supported as it would experience the same export problems.⁵⁷⁴ However, Anthony rejected the plan, probably due to the amount of capital investment the scheme required. In addition the premises at Royal Mint Street were not considered to be large enough. However, the site at Tring would have been more than adequate as previously when a similar scheme had been considered the ideal site had been identified as ‘in the country with good railway and canal facilities, and a space for dumping slag.’⁵⁷⁵ Access to a good supply of labour was no barrier or necessarily the prime concern at the Refinery. During the war the operation had undergone some changes and had become highly mechanised, incorporating an array of labour-saving devices.⁵⁷⁶

When staff at the Royal Mint Refinery who had been on war service returned to London, they found very little going on. However, one change that had been made during the war, and which endured, was the maintenance of detailed records. These new systems had developed out of the daily communication sent to Anthony of events at the factory and the Refinery. In addition Rothschild had to supply detailed reports to the Ministry of Aircraft Production (MAP) to justify their requirements for

⁵⁷³ RAL, XI/111/908, Special Correspondence RMR, ‘Proposed residue treatment plant by RMR staff’, 31 Jan 1945.

⁵⁷⁴ Ibid.

⁵⁷⁵ Ibid.

⁵⁷⁶ Ibid.

each operation and for the regular auditing of its work. Practices adopted in war-time continued with peace. Arthur McIvor suggested that this was quite common as capitalist enterprises became larger so methods of labour management and control became more sophisticated.⁵⁷⁷ Certainly in the past Rothschild had struggled to explain the separation of tasks and provide a breakdown in the cost of each task performed. In post-war planning it proved a real asset that these costs were now available and it was possible to calculate cost projections through the close monitoring of income and expenditure, in tandem with labour requirement.

In November 1945 a report was produced for Rothschild by a firm of chartered accountants, A J Barsham & Co, projecting income and expenditure for the first full post-war year of trading at the Royal Mint Refinery. The object of the exercise was to estimate the anticipated revenue from known sources against known expenditure. Staff at the refinery assisted with the preparation of the document. Unfortunately the original breakdown is not available but figures appear throughout the report. Divided into six sections, the first part of the report explained the reason for the document and was followed by a section on estimated income, which was then subdivided into three possible areas; precious metals, rolling mill, and other. Under Precious Metals it was anticipated that gold from Rhodesian and West African Mines would soon be sent to London for treatment. The predicted figure was based on 1938 treatment figures charged at the refinery of 2.2d per ounce, plus the 45 per cent war-time surcharge that had remained in force.⁵⁷⁸ In addition the commission charged to both buyers and sellers of Rhodesian and West African Gold were included. It was

⁵⁷⁷ McIvor, *The State of Industry*, p. 79.

⁵⁷⁸ RAL, 143/33, Memorandum 'A Year's Post-war Operations', prepared by A J Barnsham for N M Rothschild & Sons, 22 Nov 1945.

calculated that the rolling mill might generate an income of around £2,500 per month. Other sources, such as silver refining, durville casting, gold and platinum molybdenum wire, powdered metals, nickel silver, nickel recovery and skimmings, were estimated as generating an income of around £1,000 per week. The annual anticipated revenue from these activities was close to £60,000. However, after deducting direct costs, wages and materials (oil consumption and crucibles) the amount fell to around £17,000. In addition to known expenses a number of indirect office and fixed expenses estimated at nearly £45,000 were calculated, which once deducted from the estimated gross profit left a deficit. The deficit deepened if the total cost of personnel engaged by the Refinery, but not involved directly in the programme of refining and rolling, were included which then pushed the deficit to nearly £15,000.⁵⁷⁹

As a result of this exercise the viability of each department came under the spotlight and managers were told to keep costs to a minimum. Throughout 1946 monthly operating costs and expenses were assigned to each department. Whilst this is of interest the notes generated as a consequence of these reports offer an insight into the obvious dissatisfaction by section heads in the way calculations were arrived at and objections raised at the equal division of overheads across all departments; it was felt unfair that as precious metals played the biggest part in the whole economy of the Refinery the department should bear the heaviest proportion of costs. Similarly complaints were made over semi-productive wages, where a task was undertaken by several departments and was not apportioned correctly. An additional

⁵⁷⁹ Ibid.

report planned for the dismissal of 16 non-essential employees by the end of 1945.⁵⁸⁰

Over half of those to be dismissed were women, who it was noted were not happy to undertake other work, or who had requested to leave. The rest were elderly men. A further surplus of 17 staff, mainly composed of foundry men, would be let go after February 1946 if no further work was forthcoming.⁵⁸¹ Some of the measures put forward must have worked, although which is not apparent, as in 1947 the operating net profit at the Refinery was reported as £25,000.⁵⁸²

Salaries and wages paid during 1945 constituted nearly half of the running costs of the firm and staff remuneration rose over the course of the next few years.⁵⁸³ Monitoring the rates of pay for foundry workers had been an ongoing task at Rothschild since the outbreak of war in 1939. In 1943 Kimpton had produced a study to ascertain if the rates paid to workmen employed at the Refinery were competitive. He found that unlike workers at iron foundries, which had union representations and scheduled rates of pay, there were no equivalent rates for non-ferrous metal foundries and that rates greatly varied depending on the type of alloy being manufactured.⁵⁸⁴ Kimpton observed that ‘some of [the alloys] are difficult and depend for their success on the skill of the men involved whereas ordinary brass melting probably represents the least skill of any of the alloys made.’⁵⁸⁵ He felt obliged to fall back on general practice in engineering factories to arrive at a satisfactory comparison for wages at the Refinery. In practice Rothschild had been

⁵⁸⁰ RAL, 143/33, Refinery Staff, 13 Dec 1945.

⁵⁸¹ Ibid.

⁵⁸² RAL, 148/33, Notes on ‘Overhead Calculations’, 29 Nov 1947.

⁵⁸³ RAL, XI/111/908, ‘Labour in RMR’, 1 Mar 1946.

⁵⁸⁴ RAL, 148/29, NMR Dept. Acc., Memorandum ‘Pay for Foundry Workers’, Jun 1943.

⁵⁸⁵ Ibid.

resistant to join trade associations.⁵⁸⁶ However, in 1943 it was through the firm's membership of the Watford Manufacturers Association,⁵⁸⁷ that Kimpton was able to separate employees into the three categories of work undertaken at the Refinery; skilled, semi-skilled and unskilled. Each came with their own definition, as advanced by the Association. Skilled work required a degree of skill or competence acquired by a workman of normal intelligence and ability after a period of 18 months training or experience including a period of experience in a training centre.⁵⁸⁸ Semi-skilled work was understood to mean 'work that can be satisfactorily executed by a workman of normal intelligence and ability after 9 months practice or training, including the period of experience in a Training Centre, if any.'⁵⁸⁹ Finally unskilled work was defined as 'work that can be satisfactorily executed by a workman of normal intelligence and ability after 7 days practice or training.'⁵⁹⁰ The rate of pay reflected the level of skill required for a task.

The majority of the workforce at Royal Mint Refinery, particularly those who had worked on brass melting, were classed as semi-skilled. Wages paid by Rothschild were higher than the district rates of pay. In 1943 an unskilled labourer in London, working a 47-hour week, could expect to earn £3 8s 9d, while an employee at Rothschild earned £4 1s 10d. A semi-skilled man in London working a 47-hour week received £3 16s 3d, compared to £4 7s 3d paid to Rothschild staff. A three shift system had been introduced at the refinery in 1937 but this had been replaced, and

⁵⁸⁶ Evidence suggests that Rothschild spurned trade associations. Although, whilst working in collaboration with the Enfield Rolling Mill, Rothschild had been unprepared to join the Cold Rolled Association but had agreed to adopt the Association's selling prices for strip. In return customers of Rothschild were entitled to receive the deferred aggregated quantity rebate offered by the association.

⁵⁸⁷ It is not apparent when or why Rothschild decided to join the Watford Manufacturers Association but it was probably a result of the new Tring engineering operation, rather than the London refinery.

⁵⁸⁸ RAL, 148/29, 'Pay for Foundry Workers', Jun 1943.

⁵⁸⁹ Ibid.

⁵⁹⁰ Ibid.

elters and refiners now worked two shifts of 24 hours, 7am-5pm and 7pm-6am with two hours sleeping time.⁵⁹¹ Overtime was worked when justifiable. The hours worked at the refinery were not felt to be excessive; the day shift worked 54 hours and 48 hours in alternate weeks and the night shift 48 hours, and no deductions were made in respect of meal times and other intervals for refreshment. In 1943 Kimpton felt that workers at the Refinery received more competitive rates than their contemporaries and as such there had been no case for a general increase in the wages paid.⁵⁹²

In December 1945 the workforce at the Refinery stood at 132 and the monthly wage bill totalled nearly £3,200.⁵⁹³ Monitoring wage rates formed a large part of the ongoing review taking place into the operational costs and expenditure at the Refinery. In preparation for adopting a 44-hour week at the Refinery in January 1947, the management overhauled wage rates, and re-graded certain sections of work and individual employees. Any merit rises considered due were taken into account in the new rates. Part of the change involved the consolidation of wages and bonuses. By 1946 the war bonus of 15/s was thought to be an anachronism and had in part already been consolidated for purposes of overtime and, in individual cases, for pensions.⁵⁹⁴ Kimpton began a full review of labour in February 1946, just before his retirement. In general observations concerning industry Kimpton noted that ‘firms have a small proportion of trusted specialists who would be very difficult to replace

⁵⁹¹ RAL, 148/29, Internal memo ‘Ken Belcher to Anthony de Rothschild’, 20 Feb 1946.

⁵⁹² RAL, 148/29, ‘Kimpton to Anthony de Rothschild’, Jun 1943.

⁵⁹³ RAL, 148/29, Wage payments for the period 31 Dec 1945 to 27 Jan 1946.

⁵⁹⁴ RAL, XI/111/908, Memorandum ‘Wages’, 24 Oct 1946.

who are paid high wages and who in consequence are likely to remain with the same firm during their working life.’⁵⁹⁵ Whilst the vast bulk of labour were recorded as:

constantly changing their employment. They are taken on by firms for a particular job, dismissed when the job is finished and move to other firms and other jobs. They get no remuneration beyond their standard wages except for overtime and possibly a production bonus. They are dismissed without compunction when they are no longer needed, they are “stood off” when conditions make their work impossible, and there are no personal relations between them and their employers, no help in time of sickness or trouble, no pension, because they are a floating population with no permanent employers (Class 1).⁵⁹⁶

Certainly before 1939 honesty, character and reliability were of paramount importance in the recruitment of staff at the Royal Mint Refinery, as workers had been mainly engaged on the refining of precious metals. If workers possessed these qualities, and if they proved competent, they could expect to remain permanently employed at the refinery with a pension at the end of it.

As precious metal work declined and was replaced by base metal work a tendency to recruit labour on less permanent factory lines had begun. However, a number of these men proved extremely valuable and graduated into the grade of trusted specialists, as was highlighted later in the year when some employees were selected for higher grades and were likely to qualify for a pension.⁵⁹⁷ In March 1946 clerical staff (Class 2) and trusted specialists (Class 1), held additional benefits over and above their basic wage, war bonus and production bonus. These included a pension when they reached the age of 55/65 (class 2 only), a Christmas present varying between £3 to £10, a fortnight’s holiday with pay (instead of one week) plus all bank and national holidays, pay when sick on an increased scale above the normal and for

⁵⁹⁵ Ibid., ‘Labour at RMR’, 1 Mar 1946.

⁵⁹⁶ Ibid.

⁵⁹⁷ Ibid.

longer periods graduated in accordance with their years of service, and help for themselves and members of their families in times of trouble and sickness, such as hospital treatment.⁵⁹⁸

In 1946, 50 of the 104 employees who represented all the labour at the Refinery (excluding boys, girls and laboratory assistants) had asterisks placed against their names, identifying them as key men or of long service, who would be the last to go unless the Refinery was closed down.⁵⁹⁹ No account was taken of the family circumstances of the men when bonuses were paid and as wage rates and bonuses were also not determined by ability or length of service, it was felt that a two-tier system should be introduced to take both into account. In addition the war bonus, 15/s, and production bonus, which varied between £1 and 12/s 6d, was discontinued and substituted by a 'cost of living bonus' that could be maintained for some years until post-war conditions had settled down.⁶⁰⁰ One of the main problems in consolidating the bonuses was that rates had increased ad hoc over the years and did not reflect post-war conditions. The war bonus, which had been introduced after the 1940/1 emergency production efforts had started to slacken off, had been an attempt to resolve some disputes and discontents in the work place. It had not decreased output and was thought to have improved 'the quality and the general spirit of the works.'⁶⁰¹ However, by 1946 the production bonuses had virtually become fixed additions to wages and applying the varied bonus had only been possible while the bulk of men had been engaged on long runs of a standard product in the foundry or rolling mill. The transfer of men, permanent and temporary, to other departments

⁵⁹⁸ Ibid.

⁵⁹⁹ Ibid.

⁶⁰⁰ Ibid.

⁶⁰¹ RAL, XI/111/908, Memorandum 'Wages', 24 Oct 1946

meant that the bonus was difficult to maintain and justify, and had become a source of friction.⁶⁰² It was felt that it was no longer possible to continue with the bonus system as the varied and irregular work at the Refinery meant that it was no longer possible to fix an equitable rate which did not place sections of the works against each other. Having consulted with staff it was found that workers were more interested in receiving a good steady wage and being encouraged to take an active interest in their work, by being given more responsibility, receiving good treatment and special privileges, than in competing for extra money. It was felt that this was part of the reason that men at the Refinery had not joined a trade union, unlike many of the staff next door at the Royal Mint, which was said to have an 'atmosphere of hostility.'⁶⁰³

Streamlining wage rates brought departments at the Refinery into line with each other. Maintenance men and floating gangs were treated as one department, and for the first time provision were made for them to receive a bonus. Overall sick pay, holiday pay and pensions were increased. The review, in monetary terms, cost Rothschild an addition £24 10s 0d per week on the wage bill. Management selected a number of men for 'special treatment'. Most held positions of responsibility and some had special qualifications, some worked a great deal of overtime on the premises, and a number took paper work home with them, yet their total earnings were only comparable with salaries for others in similar positions. Those selected were said to be 'the kind of men who respond willingly to any calls which are made on them and can be trusted to give the firm a full contribution in return for what they

⁶⁰² Ibid.

⁶⁰³ Ibid.

receive in salaries and privileges.⁶⁰⁴ In the first instance six men and one woman were selected for special treatment. The recipients: Green, Hutton, Relph, McEvoy, Fielder, Edwards, and Mrs Coltman, were taken from across the various departments of the refinery. Most were either foremen or in charge of the department. With the exception of Mrs Coltman, all had worked for the firm for over ten years and their combined service to the refinery totalled 117 years. Green, the Bullion Room Foreman, was the only one out of the seven who had undergone his apprenticeship at the Refinery and had served the firm for 30 years. Each gained the same status as clerical employees, and for pension purposes their maximum basic wage was to be considered £8, the highest consolidated basic wage that could be earned under the new scheme. Management response to the findings of the review and changes to the basic wage, bonuses and overtime payments was that:

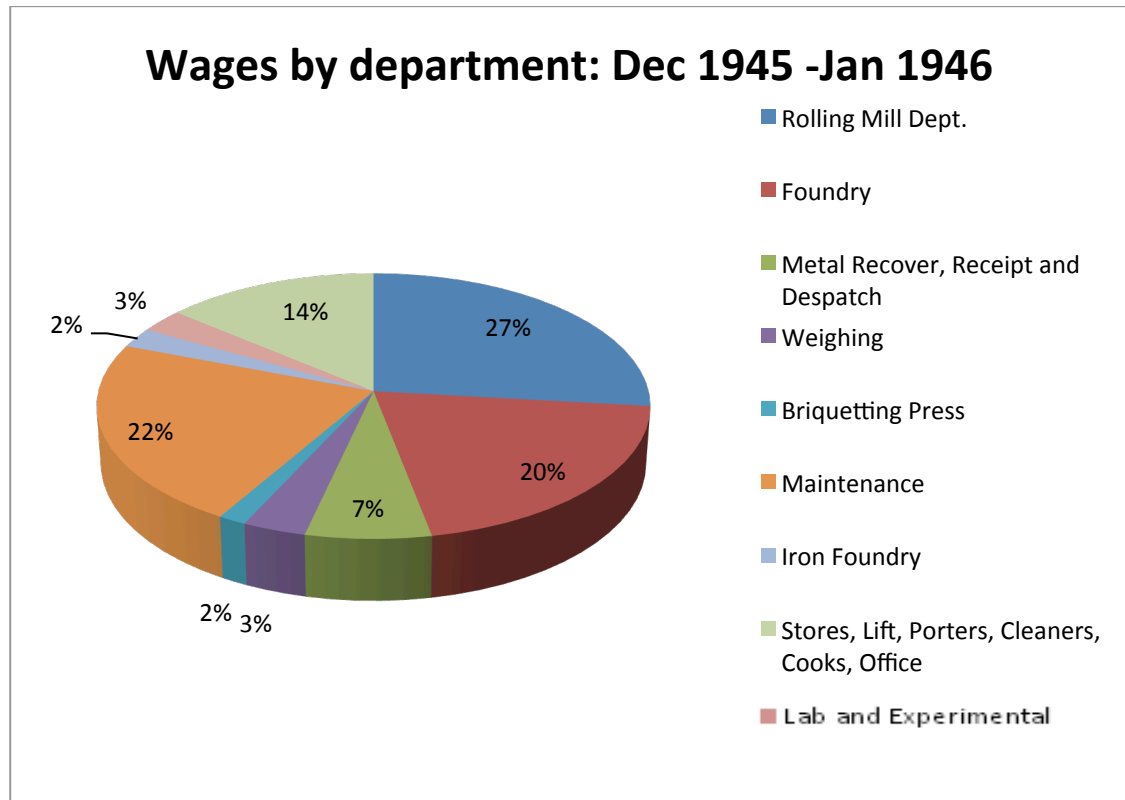
One does not want to encourage leisurely working during the normal working day so that the standard wage can be increased by over-time. The aim should be to pay a good man good wages for a good day's work (within 40 hour week or whatever it is) and if he qualifies for a pension pay him a pension based on the good wages which he has earned.⁶⁰⁵

The new rates and departments came into effect on 4th January 1947. Employees were divided into nine departments; Foundry, Rolling Mill, Residues Press & Floating Gang, Bullion Room Weighers & Iron Foundry, Porters & Cleaners, Moebius Plant & Milling Saw, Fitters, Labourers Bricklayers Painters Carpenters, and finally Electricians. The chart below indicates the division of wages by department, whilst the second chart represents the split of employees attached to each department.

⁶⁰⁴ Ibid.

⁶⁰⁵ Ibid., 'Labour', 28 Oct 1946.

Table 9. 'RMR Wages by Department 1945-6'



Source: RAL, XI/111/908, 'Notes on Re-Draft', 2 Dec 1946.

The revised scales took into account new entrants, who could progress after three to nine months of service. Longer service employees were divided into skilled, semi-skilled, and those with seniority in position. Wage increments ranged between 2/2½d to 2/9½d.⁶⁰⁶ A grid was produced and every employee entered showing their present wage, war bonus and production bonus and the wage rate that applied underneath their name, age and length of service were noted. Despite receiving 'special treatment' Mrs Coltman remained the lowest paid employee at the Refinery.⁶⁰⁷ The new pay scale was circulated to all workers with an accompanying guide. It informed employees that:

The new consolidated wages will mean increased rates for overtime, so that, although these wages will in a large number of cases be a little less than the total of the previous payments no man will have his average earnings reduced by the change so long as the number of hours overtime worked is not

⁶⁰⁶ Ibid., 'Consolidated Wage Chart', 2 Dec 1946.

⁶⁰⁷ Ibid.

substantially below the present level. It will further be appreciated that the new wages will rank for pensions, sick pay and holiday pay.⁶⁰⁸

Workers were invited to consult with their department manager if they did not understand the new scheme. The review in rates of pay was long overdue and was carried out of necessity.

In 1946 in an attempt to develop new business Anthony engaged the services of an experienced commercial sales agent S Goodfellow, to see how best the existing range of products could best be adapted to the post-war needs of industry and consumers. The appointment was not welcomed by all at Rothschild. John Flynn had turned down an approach by Goodfellow in 1945, put off by the £500 a year fee charged. Flynn felt the charge unjust, and also it had not been right time to expand the business. However, a year had passed and in order to achieve the full potential from both operations Goodfellow was asked to conduct a study and provide some general notes on how he could assist Rothschild to develop new products and markets. The advantage of engaging an independent individual was that he had an unbiased view of the operation. Goodfellow suggested that before the outbreak of war the sole existence of the Refinery was to treat bullion and that the premises had seen better days. He noted that whilst the refining of precious metals still experienced bright periods, there were not enough. He accurately described the operation as he remarked that:

If something could be done to fill these dull periods all well and good but above all it was refining that mattered; and if by any stroke of good fortune, bullion mails arrived again on their old scale then whatever had been developed meantime would have to take second place.⁶⁰⁹

⁶⁰⁸ Ibid., 'Notes on Re-Draft', 2 Dec 1946.

⁶⁰⁹ RAL,148/36, S Goodfellow Sales Agency 1945-1967, 'General Notes on the Refinery and Tring', Dec 1946.

He recalled that during the pre-war operation the 'lack of space seems to have stifled at birth many ideas for development which should have been considered more seriously.'⁶¹⁰ He also explained that the relationship with the firm's main competitor, Johnson Matthey, and the long standing agreements and activities with them had impeded the development of the Rothschild venture. One of the main faults in the past had been the aversion to marketing products, as an industrialist would have done. Perhaps the most striking observation Goodfellow made was that at the refinery 'altogether a sort of mild depression pervaded the place relieved now and again by a liveliness which coincided with the arrival of bullion mail' for 'the refinery knew it was going somewhere but it didn't know quite where!'⁶¹¹

Goodfellow advanced the idea of the 'Group'. He had been struck by the preoccupation of each section with its own problems as though it were independent of others and felt that there was inadequate appreciation of the possibilities of the group as a unit. His reasoning behind this proposal was based on the following observations:-

- 1) The Refinery (I am told) cannot exist on bullion refining alone but the equipment devoted to this must have first place.
- 2) The old rolling mill is inefficient in the sense that it could hardly justify its existence on ordinary Copper-Zinc alloys in ordinary times and on ordinarily margins.
- 3) The new Rolling Mill – even at maximum production cannot carry the rest of the overheads
- 4) The foundry, bearing average overheads exceeding those reasonable for its trade, could not make a profit on commercial margins on ingots of base metal alloy
- 5) To counterbalance high overheads highly skilled highly paid work must be developed

⁶¹⁰ RAL,148/36, S Goodfellow Sales Agency 1945-1967, 'General Notes on the Refinery and Tring', Dec 1946.

⁶¹¹ Ibid.

- 6) Most suggestions for new work need more space than is to be had at the Refinery
- 7) Converting a “lump of metal” into something of much greater value needs the Foundry and Engineering skills available at Tring.
- 8) Since everyone is already accustomed to the idea of “half” the works being in the country it may not be quite so difficult after all to face the decision to allow development of the Refinery to spread there too.⁶¹²

If Goodfellow’s proposal was accepted it would mean that the prices quoted at the refinery would need to be more economical. The Refinery would have to enter more competitive markets, such as ingot metals, duty bronzes and aluminium bronzes, and high duty coppers for the plating trade, which offered better prospect than bullion refining. It was also suggested that a market could be developed simultaneously at Tring for foundry and finished products. The report indicated other areas of development for the company including copper and silver solder alloys for use in the expanding market of circuit boards and highlighted past failures in a lack of investment in the future of the Refinery. Goodfellow expressed his hesitation at presenting his ideas to Rothschild for he was concerned that the venture would ‘simply to be kept ticking over more or less in a state of perpetual readiness for bullion mails and such exceptional “once in a generation jobs” like the conversion of the silver coinage’⁶¹³ or that the ideas put forward might be ‘too farfetched, [and] too ambitious.’⁶¹⁴ However, in Goodfellow’s opinion:

the opportunities [were] there to build a first class organisation for technical products in demand throughout industry and it is unenterprising not to take them especially when one foresees the time when the Refinery may languish again to the restless and humiliating inactivity of waiting for something around the corner.⁶¹⁵

⁶¹² Ibid.

⁶¹³ Ibid.

⁶¹⁴ Ibid.

⁶¹⁵ Ibid.

Anthony's thoughts on Goodfellow's proposals go unrecorded. However, the London refinery did extend its activities and some of these changes were ideas put forward by Goodfellow.

Figure 15. 'RMR British Industries Fair, 1952',⁶¹⁶



One of Goodfellow's recommendations which was followed was that Rothschild take a stand at the British Industries Fair. This was a government-backed initiative for British firms to expand their exports by providing an invaluable 'gigantic shop window' to international customers.⁶¹⁷ Promotional brochures produced for the firm's stand at the 1948 British Industries Fair provide an insight into the full range of activities of the Royal Mint Refinery. Staff received over 180 enquiries, of which 150 were reported as new contacts.⁶¹⁸ It was acknowledged that it could take twelve months before enquiries developed into actual orders, but it was also noted that the event had provided existing customers with a chance to see the range of products and new developments. The main area of growth in the operation of the Refinery focused upon the manufacture and production of non-ferrous metals in cast and strip form,

⁶¹⁶ Source: RAL, 000/1989, Promotional booklets, c.1950.

⁶¹⁷ *The Economist*, 10 May 1940, pp. 30-1.

⁶¹⁸ RAL, 148/18. Report 'BIF Castle Bromwich 3-14 May inclusive'.

including copper foil and plated wires. The modern rolling mill and annealing plant, which had been added in 1943 to cater for Government orders, in peacetime was set to work producing a wide variety of products to meet the needs of industry. Staff of the refinery who attended the event recorded that ‘many people were surprised that we were producers of such things as copper strip, silver solders and plated wires, and it has definitely given [Royal Mint Refinery] a better chance to sell these products without extensive adverting in trade journals.’⁶¹⁹ The cost of attending the event in 1950 was just under £1000, which had slowly climbed to £1350 by 1952. Staff from the refinery continued to attend and promote the firm’s products well into the late 1950s.

As soon as conditions permitted treatment of gold and silver resumed at the Refinery, and as predicted by Goodfellow this took precedence over all other work in London. In 1946 the official rate at which the Treasury purchased gold through the Bank of England (the Bank) was 172s 3d; the equivalent of the US price of \$35 per troy ounce, less 1s 3d for expenses.⁶²⁰ With the London Gold Market still in suspension, Rothschild along with the other bullion brokers approached the Bank of England for some relief on the import and export of gold. The Bank agreed to small allocations of ‘manufactured’ gold being exported.⁶²¹ Green wrote of the ‘profitable loophole’ that this opened up, a lively trade in 22 carat (916 fine) gold sheets, pen nibs, ashtrays and statuettes which were dispatched abroad where they were then melted into small bars and sent to markets in the Middle and Far East.⁶²² The Royal

⁶¹⁹ Ibid.

⁶²⁰ The price remained unchanged until 1949 when devaluation of the pound caused a rise in the sterling price to 242s.

⁶²¹ RAL, 148/20, International Trade, Memorandum of Anthony’s visit to Bank of England, 10 Dec 1948

⁶²² Green, *The Ages of Gold*, p. 372.

Mint Refinery manufactured gold serviette rings. Johnson Matthey were more inventive as they produced Viking statuettes to export, which were probably the inspiration behind the export of gold Eiffel Towers to France in the 1951 film *The Lavender Hill Mob*⁶²³ as the characters played by Alec Guinness and Stanley Holloway needed to find a way to smuggle stolen bullion out of Britain.⁶²⁴ This healthy trade that began when the Bank of England introduced the ‘export float scheme’, as it was officially known, anxious to revive an industrial and jewellery export trade, the Bank set up a revolving credit of 100,000 ounces of gold for export to approved quarters in manufactured or semi-manufactured form.⁶²⁵ Green explained the scheme:

Authorised dealers and users each received an initial allocation, which they could replace; provided the Bank was satisfied [that] the gold was being manufactured. Moreover, if the manufactured articles were exported, then the dealer got a 50 per cent bonus the next time. Thus anyone receiving an allocation of 1,000 ounces could have it made up, sell it abroad, and go back for 1,500 ounces. Since the shortage of gold in overseas markets was creating premium prices well above the £8.12.3d at which the Bank of England sold, it was a profitable exercise.⁶²⁶

For a while the Bank of England turned a blind eye to the activities of Rothschild and others. Green observed that ‘the official on [the Bank’s] “gold post”, as the market christened it, would listen sympathetically to requests for an export licence, and then would ask, “Will it earn hard currency?” Assured that it would, he generally approved.’⁶²⁷ In 1947 the bullion brokers Mocatta & Goldsmid earned £187,000 from the scheme, reputed to have been the most profitable single aspect of their business in the history of the partnership.⁶²⁸ Eventually the escalation in exports became so great that a cut-back had to be made; the scheme was modified and the

⁶²³ *The Lavender Hill Mob*, written by T E B Clarke, Ealing Studios, 1951.

⁶²⁴ Green, ‘Precious Heritage’, p. 544.

⁶²⁵ Bank of International Settlement, *Eighteenth Annual Report*, 1948, p. 118.

⁶²⁶ Green, ‘Precious Heritage’, p. 544.

⁶²⁷ *Ibid.*, p. 545.

⁶²⁸ *Ibid.*, p. 544.

offer of a 50 per cent bonus on gold exports was removed, as well as replacement by the Bank.⁶²⁹

Amendments to the scheme coincided with the infant International Monetary Fund's (IMF) effort to tighten up on such 'leakage' in an effort to curtail the premium market in gold. In June 1947 a statement to Fund members was released expressing concerns over the transactions in gold at premium prices. It was considered by the Fund that 'unless discouraged this practice is likely to become extensive, which would fundamentally disturb the exchange relationships among members.'⁶³⁰ Moreover, it was envisaged that if the business continued it would lead to a 'loss to monetary reserves, since much of the gold goes into private hoards rather than into central holdings.'⁶³¹ The Fund urged its members to 'take effective action to prevent such transactions.'⁶³² It also encouraged the recruitment of non-members to 'join with them in eliminating this source of exchange instability.'⁶³³ A subsequent IMF communication on the eradication of the premium price observed that 'the only dependable way to get rid of premium gold markets and private hoarding of gold is to create the economic conditions under which the private demand for gold will become negligible.'⁶³⁴ It informed members that:

In every country the best way to reduce the demand for gold for private hoards is to follow budget and credit policies that will give people confidence in their currency. Nobody can have a good reason for hoarding gold or paying a premium for gold in a country in which the currency will remain stable in internal and external value.⁶³⁵

⁶²⁹ Mocatta & Goldsmid, *Annual Review*, 1947.

⁶³⁰ RAL, 148/25/5, Statement, 'Transactions in Gold at Premium Prices', 18 Jun 1947.

⁶³¹ Ibid.

⁶³² Ibid.

⁶³³ Ibid.

⁶³⁴ RAL, 148/25/5, IMF Statement, undated.

⁶³⁵ Ibid.

The main objective of the IMF was to limit the flow of gold from the supply side.

Britain backed the request from the IMF. As a consequence the Exchange Control Act 1947 came into force.⁶³⁶ Under section 22 of the legislation the importation of gold remained free of restrictions but the exportation of gold was prohibited except with the permission of the Bank of England, as agents for the Treasury. Therefore with effect from July there was greater difficulty in obtaining export licences.⁶³⁷

Rothschild, which had continued to export a small amount of manufactured small gold bars to the Middle East market, was unable to obtain further licences and despite the ongoing demand lost the business.⁶³⁸

However, not all countries exercised the same strict control as Britain and as a result business which prior to the war would automatically have been sent to London was now diverted to the less restrictive markets of France and Switzerland. Green explained that ‘the London market found itself totally frustrated. It had to stand aside and watch as the Swiss banks took over much of the legitimate gold business, while black markets in Tangier, Beirut and elsewhere proliferated.’⁶³⁹ In the 1948 Mocatta & Goldsmith annual circular Goldsmid wrote that ‘the bulk of the world’s gold business is carried on in other centres where the Authorities are less scrupulous and neither producers, the old-establishment regular dealers, or the ultimate consumers benefit.’⁶⁴⁰ South African producers, and other producing countries, were put out at having to accept the official \$35 an ounce price for gold whilst on the black market

⁶³⁶ BEA, C52/29, Legislation, Gold, Acts of Parliament affecting the bullion office, May 1953, pp. 6-7.

⁶³⁷ Ibid.

⁶³⁸ RAL, 148/20, International Trade, 16 Sep 1948.

⁶³⁹ Green, ‘Precious Heritage’, p. 545.

⁶⁴⁰ Mocatta & Goldsmid, *Annual Circular*, 1948.

the price rose to over \$40 an ounce.⁶⁴¹ Harry Goldsmid laid the blame on the IMF as he complained that ‘the Governors of the International Monetary Fund are adamant that the only acceptable basis for sales of gold is the official price, and any form of subsidy is frowned on.’⁶⁴² Rothschild expressed concern as the ‘present policy may result in this loss of supremacy in the field of refining and when controls are relaxed the business may be difficult to recover.’⁶⁴³ Under the new legislation, the authorities allowed unrefined gold to enter the country and to be returned to the country of origin in the form of 400 ounce bars, but the gold was not allowed if it was diverted to Britain for refining whilst in transit from the country of origin to another country. The restrictions affected the post-war recovery at the Royal Mint Refinery, however, the void was filled with the treatment of silver.

Relief at the Refinery came in the form of silver treatment. Since 1941 no silver had been released by the authorities other than for war purposes. The cancellation of war contracts lessened demands for silver and non-ferrous metals. The price of silver in January 1946 stood at 44d per fine ounce, but by the end of the year it had increased to 55½d.⁶⁴⁴ The rise was partly a result of the increased demand for silver for essential industry, but the Coinage Act 1946 was also a contributing factor.⁶⁴⁵ This enabled the Government to substitute silver alloy coinage for cupro-nickel, and came about because although most of Britain’s obligations under Lend-Lease to the United

⁶⁴¹ The South African Producers decided to risk the wrath of the IMF and made direct gold sales to Switzerland and various black markets to gain the \$5 an ounce premium, passing the gold off as ‘manufactured’ so as to avoid infringing the IMF rules. In 1949 the South African Reserve Bank made a trial sale of 100,000 ounces, and having met no official opposition the gold producers were given the go-ahead to market up to 40 per cent of their output as ‘manufactured’ gold on the premium market. The determination to sell part of the South African product at premium prices eventually wore down the IMF’s attempt to stamp out the free market. Restraints were lifted in 1951.

⁶⁴² Mocatta & Goldsmid, *Annual Circular*, 1948.

⁶⁴³ RAL, 146/17, ‘Brief History of Small Bar Production’, 5 Apr 1948.

⁶⁴⁴ Samuel Montagu, *Annual Bullion Review*, 1946.

⁶⁴⁵ Ibid.

States were cancelled, the agreement on silver was not. During the war the British Government had borrowed 88 million ounces of fine silver.⁶⁴⁶ In 1945, the only stock of silver left in Britain was the current coin, estimated at around 200 million ounces.⁶⁴⁷ There were no other countries outside the dollar area from whom the vast quantity required could be purchased. The main obstacle to the substitution was the lack of knowledge and refining capabilities in Britain, or abroad, that could deal efficiently and economically to treat the quaternary alloy. It was Peter Steel, one of the chemists at the Royal Mint Refinery, who designed a pre-refining process for breaking down the four elements involved, which could then be dealt with in the Moebius cell.⁶⁴⁸ Ongoing research into the question of refining the coin, which had only been introduced in 1927, had been a pet project of Steel, who predicted that at some point in the future a method to treat the coin would be required. Steel was not alone in his pursuit and was joined by chemists at the Sheffield Smelting Company who designed an entirely new refining process to cope with the coinage alloy.⁶⁴⁹

In April 1947 the Royal Mint invited tenders for refining regular weekly quantities of quaternary coinage of approximately 100,000 ounces, to commence at the start of June, which would be distributed amongst the refiners whose tenders were accepted.⁶⁵⁰ The tender required a price for refining per ounce and the abatement the refiner would make from the price of electrolytic copper in crediting the copper recovered; copper was a by-product of the refining of the coins. The refiners were also asked to estimate any losses that might be encountered and

⁶⁴⁶ Wilson, *Two Hundred Precious Metal Years*, p. 256.

⁶⁴⁷ Ibid.

⁶⁴⁸ RAL, 000/1242, 'Obituary Peter Steel', *N M Rothschild & Sons, Pensioner Newsletter*, 1997.

⁶⁴⁹ Wilson, *Two Hundred Precious Metal Years*, p. 256.

⁶⁵⁰ RAL, 148/33, Letter 'N M Rothschild & Sons from Royal Mint, invitation to tender', 29 Apr 1947.

calculate the balance of silver at the end of the process,⁶⁵¹ proof that the Royal Mint were not fully aware of the technical process themselves. A short visit by the Rothschild refinery staff to discuss details of their own tender, prior to submission, revealed that the Royal Mint would engage their own accountants to inspect refining operations. Rothschild was hesitant about accepting this measure without reassurances that there would be no possibility that they would drop hints as to the different methods employed in the various refineries. The Deputy Master at the Royal Mint reassured them that those engaged would be warned beforehand not to talk about the processes.⁶⁵² Rothschild also learnt that the refining charge was to be fixed for a period of six months, in spite of the fact that the cost investigation must take place during that period. If during that time the refiners found that the cost of refining was not as high as expected, the Mint would expect the price charged to be reflected in any follow-up contract. It was agreed that if the refiners had underestimated the cost of refining this would also be corrected for subsequent contracts.⁶⁵³

A great deal of thought was given to the tender put forward by the Royal Mint Refinery. As usual Rothschild had tried to maximise a return for their investment. Instead of the 100,000 ounces on offer their plan assumed the treatment of 400,000 ounces per week gross at a charge of 2d, a total cost of £3,333 per week, less net costs of £1,083 equalling a net contribution of £2,250 per week, or £9,675 per month.⁶⁵⁴ This amount would drop to £7,275 if a joint agreement with the Sheffield

⁶⁵¹ Ibid.

⁶⁵² Ibid., 'Notes on Visit to Royal Mint to discuss RMR Tender with the Deputy Master, Royal Mint', 24 Apr 1947.

⁶⁵³ Ibid.

⁶⁵⁴ Ibid.

Smelting Company could be arrived at.⁶⁵⁵ Rothschild submitted a tender for the work to the Royal Mint on 6 May 1947. Behind the scenes Rothschild had secured an agreement with both Johnson Matthey and the Sheffield Smelting Company that only one tender would be entered, and subsequently a separate agreement splitting the work between the three would be made should Rothschild be successful.⁶⁵⁶ The co-operation between the three refiners allowed each to get their operations in order. Rothschild was awarded the contract and whilst the Royal Mint Refinery and Johnson Matthey could start immediately, work at the Sheffield Smelting Company was delayed whilst it awaited a building licence to be issued.⁶⁵⁷ Ironically when the licence was finally issued it coincided with the Royal Mint's decision to suspend deliveries of the coin, owing to the inability of the Banks to continue withdrawals from circulation in view of heavy demands from the public for additional coin. However, deliveries resumed at the end of the year.⁶⁵⁸

In the development plans for the Refinery one idea advanced by Goodfellow had been to produce silver solder, but as this would have required an elaborate selling organisation and advertising, the idea was passed over in favour of treating coin. Goodfellow received no feedback for the decision and when asked for constructive criticism why coin was preferred no explanation was forthcoming. The truth was probably that those managing and working at the Refinery were more comfortable operating in their traditional sphere, and could see a profit to be had there.

⁶⁵⁵ Ibid.

⁶⁵⁶ Ibid.

⁶⁵⁷ Ibid.

⁶⁵⁸ Wilson, *Two Hundred Precious Metal Years*, p. 257.

The business indeed proved profitable and ongoing. In May 1949 a report into silver refining prepared at Rothschild recorded that 800,000 ounces of silver coin a week was available for distribution between the three refiners, and it was expected that this would increase by at least an additional 325,000 ounces a week over the following year. The anticipated increase was due to known supplies of silver coins still to be treated originating from New Zealand, East Africa, Palestine and Malaya.⁶⁵⁹ It was calculated that an additional 15,000,000 ounces from other known sources could be received during the next few years. Therefore an extension plan to build an additional 20 new type cells and ancillary equipment and install new electric furnaces had been granted permission. It was estimated that expansion costs would be in the region of £14,000, which would be recovered in two to three years.⁶⁶⁰ Whilst treatment continued into the 1950s the outbreak of the war in Korea meant that nickel was required for the defence programme, and the coinage scheme ceased for the time being.⁶⁶¹

The Tring factory had been born out of an expansion in the production of parts for aircrafts instigated by the Ministry of Aircraft Production (discussed in chapter 5) and since 1941 its main occupation had been munitions. As the end of war approached the main decision Rothschild had to take was if the operation should continue, or if machinery should be dismantled and returned to the Refinery and the new equipment amalgamated into the operation. The financial returns generated by the factory at Tring were healthy. The main concern of management was that although the operation had been competitive in the protected trade period during the

⁶⁵⁹ RAL, 148/41, 'Silver Refining at RMR', 23 May 1949.

⁶⁶⁰ Ibid.

⁶⁶¹ Wilson, *Two Hundred Precious Metal Years*, p. 257.

conflict, it might not continue to be economically viable once exposed to 'normal' market conditions as peace returned, which it had no way of predicting. If allowed to continue a number of prerequisites were stipulated. The first was that Rothschild must maintain their competitive edge and reputation for being reliable. The second was that Tring must be able to compete for work in a highly competitive market in which a great number of British firms would also want a share. Management at Tring had been told, unofficially, that the allocation of contracts would depend upon price, performance and reliability.⁶⁶² The third matter concerned speculation about the future demands of the RAF for parts and equipment, which were expected to be greater than in the pre-war period. Also some indication had been received that a growth in the volume of civil aviation consumption would take place.⁶⁶³ As at the Refinery, cost was a major factor. During the war the net profit of the Tring machine shop had been higher than would have been achieved under normal trading conditions. However, no one could foretell how prices would be affected by peace. It was anticipated that the work undertaken by the Refinery in London for the MAP contract, rolling foil and smelting of metal, would continue indefinitely. It was thought that the position of the Rothschild operation at Tring was 'as efficient as any and consequently consider that we can meet any competition from firms' elsewhere. Price was an all-important factor and if Rothschild could maintain this they would receive a reasonable share of available contracts.⁶⁶⁴ As Addison pointed out, 'foreign competition was a minor problem for British industry in the immediate post-war years' as 'the economies of Germany, Italy and Japan had been temporarily overwhelmed.'⁶⁶⁵

⁶⁶² RAL, XI/111/908, Special Correspondence RMR, Tring Machine Shop, undated.

⁶⁶³ Ibid.

⁶⁶⁴ Ibid.

⁶⁶⁵ Paul Addison, *Now the War is over* (London: Pimlico, 1995), p. 172.

Early in 1946 it became apparent that the activities carried on at Tring would not return to London. One reason was that most of the workforce lived locally. However, perhaps more important was the nature of the work undertaken. The feasibility study for extending operations at the Royal Mint Refinery, undertaken in 1939, had emphasised the difficulties in increasing the variety of work done in London due to the possible fumes generated, some of which would be noxious or toxic or both, and the problems of dealing with waste products. The operation would be better off at a more suitable site.⁶⁶⁶ Jerry White observed that in the post-war period firms no longer needed to be located close to the capital:

Some firms chose not to return after 1945, having increased their workforce and markets away from London. In the heavily bombed East End there was no possibility of as many jobs locating there as before the war, not only because of the amount of destruction but because comprehensive redevelopment plans would no longer allow industry to mix in with 'residential zones'. And the Industries learned they could survive away from London.⁶⁶⁷

The Tring site had served the firm's purpose well during the war and by remaining at Tring there would be no need to obtain the necessary building licence to extend the London premises. The title of RMR Engineering was chosen for the light engineering work undertaken at the Tring factory. It was hoped that the title would reflect the type of goods made and the section of industry which it served, whilst it also preserved the link with the Royal Mint Refinery.⁶⁶⁸ Although both firms were to operate separately, which was considered no bad thing under post-war conditions,⁶⁶⁹ a link between the two operations was maintained as the Tring address was incorporated onto the letterhead of the Royal Mint Refinery, although the new title

⁶⁶⁶ RAL, XI/111/908, 'Tring Report', 1939.

⁶⁶⁷ White, *Rothschild Buildings*, p. 197.

⁶⁶⁸ RAL, XI/111/909, Report produced by A E Kimpton 'RMR Engineering', 15 Jun 1949.

⁶⁶⁹ Ibid.

RMR Engineering was not immediately registered. The agreement with MAP continued in force until early 1947 when the firm purchased most of the Crown plant and paid an agreed price for the adaption's to buildings at Tring. At the same time N M Rothschild & Sons arranged with Lord Rothschild to purchase the freehold and buildings.

Perhaps the greatest hurdle that faced RMR Engineering had been the scarce housing situation in the area. The core workforce at Tring consisted of staff that had transferred from the Refinery in London. In addition the workforce had been enlarged by recruitment from areas with a tradition of tool making. After the war the promise of a house was an enormous incentive for employees to remain at Tring and an advantage to display in recruitment drives due to the housing shortage across the country. In 1946 Rothschild registered the RMR Housing Society, since such societies had priority over private building. Rothschild was thus able to take advantage of the Housing Act of 1946, introduced under the new Labour government. Additional housing at Tring represented everything the government hoped the Act would deliver. Addison observed that the Labour government worked on the principle 'that new housing should be distributed according to social need rather than market forces.'⁶⁷⁰ In practice it gave priority for manual workers and Rothschild took further advantage of the government scheme when the existing subsidy of £8 5s per house per year over forty years was raised to £22 over sixty years.⁶⁷¹ Planning permission was also granted for 24 houses to be built in Meadow Close, Tring. One of the first occupants, Mrs Hazel Connor (daughter of Mr Hoyland the manager of Shield Alloys) remembered them 'as very nice three-bedroom

⁶⁷⁰ Addison, *Now the War is Over*, p. 59.

⁶⁷¹ Ibid.

houses'.⁶⁷² With a secure workforce the factory at Tring continued to manufacture parts for the aviation industry into the late 1950s. Initially operations at Tring appeared to flounder but things soon picked up and within five years the order books were full and a bright future for the business lay ahead as new products were introduced; ticket machines and lipstick cases and will be discussed in chapter 8.

In conclusion despite the challenging post-war conditions the re-alignment of the business and the smooth transformation from trading in war to peace was completed remarkably quickly. Rothschild called upon specialist business consultants before setting a course for recovery. Ongoing restrictions to gold meant that initially the future of the Refinery looked bleak. However a plan was formed and new future forged. At Tring, once it had been decided to continue the operation, there was a brighter outlook for the factory. As government contracts came to an end Rothschild actively sought out new areas of operation. They identified and worked to the strengths of the business under a group banner. Profitability and continued monitoring of overheads were paramount in making goods competitive in order to capture new markets. The business was much changed from its pre-war existence and this was reflected in the necessity to review the wage structure. The review took into account the division of labour and skill levels required to perform a variety of tasks. Rates across the business were updated and enhanced employee benefits introduced.

⁶⁷² RAL, 000/1242, 'Tring A Memoir', in *N M Rothschild & Sons, Pensioners Newsletter*, Mar 1997.

Rothschild, on the advice of Goodfellow, actively promoted their connection to the Refinery and factory. In a bid to compete for new business the appearance of Rothschild at the British Industries Fair informed both new and existing customers of the wide range of products manufactured across both operations. Despite marking time until bullion returned to the Refinery for treatment, both operations showed early signs of recovery and moved into the next decade with a good basic foundation that could be built on.

Chapter 8

The End of the Rainbow, 1950-1974

In 1952 the Royal Mint Refinery celebrated 100 years of trading. Within 15 years the business no longer existed. Rothschild in 1961 split the venture, selling the rolling plant to a specialist firm in Southampton and the copper foil treatment business to a competitor. In 1967 an American firm purchased the refining operation and the gold and silver treatment plant was transferred to a new purpose built facility. In 1974 a purchaser was found for the factory at Tring. This chapter charts the dismantling of the venture and examines the reasons for it. The first part of the chapter reviews the trading position of the business during the first half of the 1950s; a period in which profits steadily increased, the Gold Fix returned to Rothschild and the London gold market reopened. The second half looks at the remainder of the decade and changes made in 1960s. By 1955 the outlook for the venture had started to change as decline set in and during the 1960s increased competition from US and European markets, together with the effects of decolonisation and independence of African states had an impact on the business. The options open to Rothschild will be examined. Finally, the sale of the Refinery and the eventual sale of the factory at Tring will be discussed.

Centenary celebrations at the Royal Mint Refinery were marked with a photograph of senior staff taken on the roof of Royal Mint Street (Figure 16.). Anthony de Rothschild, senior partner of N M Rothschild & Sons, sits in the centre of the front row, flanked by his nephew Edmund, to his left and on his right Bill Williams, manager of the Refinery. Williams retired later that year and the control of daily

Chapter 8: The end of the rainbow operations passed to his assistant Ken Belcher. Anthony, who had been involved in much of the decision making at the Refinery since 1919, retired in 1954 due to ill health and was replaced by Edmund. It fell to Edmund and Belcher to steer the business through the turbulent fifties; many post-war problems were still in force as an unending series of crises, Korea 1950-3, Suez and Hungary in 1956, and continuing issues in areas such as South East Asia and the Middle East continued to bring stress to the markets.

Figure 16. 'RMR Senior Staff, 1952',⁶⁷³



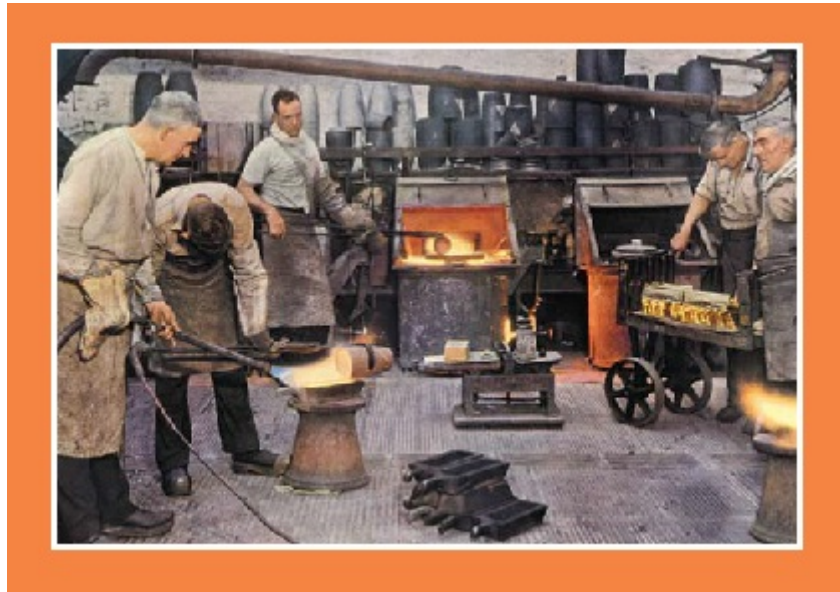
Part of the centenary celebrations included an action shot of the refinery accompanied by an editorial piece on the history of the firm in *The Times* 'Review of Industry'.⁶⁷⁴ The image marked the longevity of the business as members of staff that had appeared in the 1933 photographs (discussed in chapter 2) appeared in the

⁶⁷³ Source: RAL, 000/1242, *N M Rothschild & Sons, Pensioners Newsletter*, No.6, Mar 1990.

⁶⁷⁴ *The Times*, 'Review of Industry', Nov 1952.

image taken in 1952. The accompanying article described how the Rothschild operation had grown from a single-purpose gold refinery to treating a variety of metals ranging from gold to brass, from silver bars to copper foil, as thin as tissue paper, wires plated with all kinds of other metals, solders for industry, gold and silver grain for the jewellery trade, and metal screens for high volume printing.⁶⁷⁵

Figure 17. 'The Royal Mint Refinery, 1952',⁶⁷⁶



The management and workforce constituted a highly organised and well-seasoned group of employees, including specialist sales people and technical experts capable of giving a competent and wide range of services. After the initial upheaval created by the changeover from wartime production to peacetime activities the steady rise in demand for electric domestic and industrial appliances had provided a good market for Rothschild products. From time to time significant bursts of pressure were experienced by some sections at the Refinery. The main difficulty was the ability to forecast demand and budget confidently as so many factors and events, together with varying degrees of official control, influenced supply and demand and the freedom to operate. Progress in reorganisation and streamlining of processes was paramount.

⁶⁷⁵ Ibid., p. 13.

⁶⁷⁶ Ibid.

Gold business at the Refinery had been directly affected by the restrictions set down by the International Monetary Fund as it attempted to stamp out a free market for gold (discussed in chapter 7). Restrictions were relaxed in September 1951 when the Fund announced that it would no longer restrain the sale of non-monetary gold at prices over \$35 an ounce. It was left to governments of gold-producing countries to use their own discretion in determining the sale of domestic output.⁶⁷⁷ Mocatta & Goldsmid's annual circular for 1951 announced the news adding that 'there is now no logical reason why gold producers all over the world should not participate in the free market' although, strictly speaking the gold was still supposed to go for industrial use.⁶⁷⁸ The relaxation meant that Canadian, Australian, Rhodesian and West African gold all started going directly to the free market. It was estimated by Mocatta that supplies, which had previously been around 600,000 ounces monthly, increased to over a million ounces.⁶⁷⁹ Increased supplies affected the price, which having stood at \$40 or more came down first to \$39 then over the next year dropped until it was scarcely over the official \$35.⁶⁸⁰ However, rather than gold going to central bank holdings, the demand in the Far East and for smuggling in India meant that in 1952 as much as 17 million ounces out of the new mine supplies of 24 million ounces was diverted into private hands.⁶⁸¹

Whilst foreign exchange regulations had been relaxed to permit the commercial banks to act again as principals, all arbitrage was still banned. The London market had been permitted to make some deals with non-residents but essentially the

⁶⁷⁷ Green, 'Precious Heritage', p. 548.

⁶⁷⁸ Mocatta & Goldsmid, *Annual Circular*, 1951.

⁶⁷⁹ Green, 'Precious Heritage', p. 550.

⁶⁸⁰ Ibid.

⁶⁸¹ Ibid.

London brokers could do little in London themselves. Parcels of gold did return for treatment at the Royal Mint Refinery and by June 1952 output of treated gold was around 3,000 ounces a day.⁶⁸² The establishment in 1953 of a Multilateral Arbitrage Area, comprising Britain and six European nations including France and West Germany, permitted spot and forward dealing in foreign exchange.⁶⁸³ As Green explained:

The next logical step to restore the comprehensive services that the City traditionally offered was to re-open the gold market. Early in 1954 the Bank of England discreetly gathered the members together and proposed that plans should be made for a grand re-opening of the market in March. It was suggested by one bullion house that as such a time had lapsed, fifteen years, the fixing should be moved to neutral ground by jointly renting premises. However, the idea was withdrawn when the Bank pointed out to the firm concerned that presumably they were not interested in taking part, so the market would manage without them.⁶⁸⁴

Rothschild continued to host the fixing. The cast remained the same. However, the pre-war distinction between the brokers was removed as *The Economist* re-introduced the firms to their readers and spoke of the ‘four specialised bullion firms, Johnson Matthey & Company, Mocatta & Goldsmid, Pixley & Abell, and Sharps & Wilkins... together with N M Rothschild & Sons and Samuel Montagu & Company, both authorised banks and, therefore, dealers in gold.’⁶⁸⁵ All six members had an equal footing.

On Monday morning at 10:30 a.m. on 22 March 1954 the representatives of each firm gathered again in the traditional fixing room at New Court. A price of £12 8s 6d was agreed, which was a little over \$35; the price, compared with £8 1s 10d at the

⁶⁸² Ibid.

⁶⁸³ RAL, 46/207, Edmund de Rothschild Personal Correspondence 22.8.1947-Feb 1969, Memo regarding serviette ring output, 5 Jun 1952.

⁶⁸⁴ Green, ‘Precious Heritage’, p. 553.

⁶⁸⁵ *The Economist*, 27 Mar 1954.

last pre-war fixing, had increased due to sterling's depreciation.⁶⁸⁶ Green suggested that:

The prestige of the market as the international clearing centre for gold was assured from the start, for the Bank of England had been appointed the sales agent of the South African Reserve Bank, who had taken the decision to sell all 'industrial' gold through London. The Bank of England was the prime seller through Rothschild in their capacity as chairman of the fixing. Rothschild had the responsibility of picking up the gold from the Bank and distributing it to the other members of the market.⁶⁸⁷

In addition sales of Russian gold, which were substantial until the mid 1960s, enhanced the market's status.⁶⁸⁸ Together with the two major gold producers, smaller offerings from Rhodesia, Ghana and the Philippines, whose gold was refined in London, meant that London's pre-war eminence was restored.⁶⁸⁹ The Mocatta & Goldsmid 1954 annual circular noted that 'London is the centre of gravity of the European free market... The re-establishment has brought here much of the business hitherto carried on abroad and the official London price has provided a much needed register of its fluctuations.'⁶⁹⁰ The re-opening of the London bullion market removed the main obstacles that had hindered the treatment of gold in London, which had affected the post-war recovery of the Royal Mint Refinery.

In 1955 there was a general improvement in the trading position for precious metals and a steady trade in gold refining was reported at Rothschild, although silver

⁶⁸⁶ Green, 'Precious Heritage', pp. 553-4.

⁶⁸⁷ Ibid.

⁶⁸⁸ Russian gold bars, although accepted in London without question, were discriminated against by some central banks, particularly France and Belgium. To avoid a position where Russian bars were made 'bad delivery' the Bank of England agreed to exchange Russian bars against others held by the bank. At one point 8,000 Russian bars were held by the Bank, and it was estimated that a cost of £20,000 would be incurred should it be necessary to re-melt the gold and recast the bars to show a London Good Delivery. See, for discussion, BEA, C20/22.

⁶⁸⁹ Green, 'Precious Heritage', p. 554.

⁶⁹⁰ Mocatta & Goldsmid, *Annual Circular*, 1954.

business had decreased.⁶⁹¹ The Refinery treated German, Danish, Colombian, Canadian, Turkish, Brazilian, Russian and Spanish gold.⁶⁹² The workforce, when required, worked twelve hour days and Sundays.⁶⁹³ In the 1956 performance review, however, it was noted that the refining business had been affected by the strikes at the Ashanti and West African gold fields. Profits were down and it was reported that ‘alas it is not as good as we had hoped, more a sign of the times.’⁶⁹⁴ During the year the refinery had seen ‘periods of activity and at other times literally nothing to do, but we have come to rather expect that in this particular sphere of our operations.’⁶⁹⁵ Some improvement was reported in 1957 but Rothschild appealed to workers to ‘keep overheads to a minimum.’⁶⁹⁶ Throughout 1958 a steady improvement was recorded. However, by 1959, although contracts were in hand for refining gold and silver, the future of the business was said to be ‘almost impossible to predict.’⁶⁹⁷ Edmund, in a speech to refining staff, observed that ‘the demand [for gold bars] depends on the activities of numerous unknown gentlemen in the Middle East and the Far East who at the moment seem to be suffering from a total eclipse.’⁶⁹⁸ By 1965 an embargo by a number of Arab countries was placed on gold bars produced at the Royal Mint Refinery. It became ‘impossible to dispose stamped bars’ showing

⁶⁹¹ In 1955 the firm suffered a setback when the Royal Mint rejected the quotation put forward to refine quaternary silver. It was observed that ‘with RMR’s method of refining it is impossible to compete with Sheffield Smelting’. The Sheffield firm were able to undercut both Johnson Matthey and Royal Mint Refinery following the introduction of new treatment techniques developed by the firm. Increased competition from the Continent and India, from a refinery in Alipore, accounted for the reduction of silver requiring treatment at the Rothschild refinery. (See, RAL, 148/38, Silver refining and thin copper foil Sundry, 1955).

⁶⁹² Notes compiled from the desk diary of Arthur Hunt, with the permission of A G Hunt.

⁶⁹³ Ibid.

⁶⁹⁴ RAL, 148/41, ‘Edmund de Rothschild address to Refinery staff’, Dec 1956.

⁶⁹⁵ Ibid.

⁶⁹⁶ Ibid., 148/41, ‘Edmund de Rothschild address to Refinery staff’, 19 Sep 1957.

⁶⁹⁷ RAL, 148/41, ‘Edmund de Rothschild address to Refinery staff’, Jan 1959.

⁶⁹⁸ Ibid.

the Rothschild logo.⁶⁹⁹ Subsequently the bars were sent to Samuel Montagu who branded the gold with their firm's logo.

The re-opening of the London bullion market in 1954 should have seen the return of the Royal Mint Refinery to its primary function of treating gold and silver. However, it was not long before the venture was subjected to the effects of decolonisation as new African countries gained independence and took control of industry and finance. Before independence the best customer of the refinery was the Ashanti Goldfields Corporation and the gold was consigned to Rothschild by the Bank of West Africa Ltd, Accra under a three year renewable contract. Upon arrival the gold was sold on the Bank of West Africa's behalf at the fixing, and payment for the approximate counter value was made to Glyn Mills & Co., for their account on the normal value date. Ashanti had been responsible for paying all charges up to the time of arrival at the Refinery, such as the insurance and freight. In assessing the final amount to be paid in respect of any consignment Rothschild deducted their own commission, refining and assay charges.⁷⁰⁰

After independence in 1957 high on the agenda of the Ghanaian Government was the country's departure from the sterling area, regarded in London as 'a simple closure to break colonial apron strings.'⁷⁰¹ Of greater concern in the City were the protective measures invoked by Ghana with the introduction of the Mining Abandonment Act

⁶⁹⁹ RAL, 148/37, 'Memo noting boycott of RMR tola Bars', 22 Apr 1965.

⁷⁰⁰ RAL, 148/41, Ashanti Goldfields Corporation Limited, 9 Nov 1961.

⁷⁰¹ BEA, OV69/6, Ghana Report, 15 May 1961; Correspondence relates with how to deal with Ghana leaving the sterling area. It highlighted that Ghana received few incentives to continue. What was of concern was the impact leaving might have on other newly emerging countries such as Tanganyika. The position was highlighted in a report back to London by Arthur Snelling, British High Commissioner in Accra. He was chastised for his views on the matter as 'it was not his place to make such assessments'.

1961, introduced to safeguard the mineral reserves of Ghana. The Act made it an offence to 'do any act calculated to prejudice the future operation of an underground working' without the prior written consent of the Chief Inspector of Mines. In 1961 the Ghanaian Government formed the Ghana State Mining Corporation, which 'took over' the gold mines that had sent their output to Rothschild for refining and marketing, with the exception of the Ashanti Goldfields Corporation Ltd. Although at some stage it was assumed by Rothschild that state of affairs would change, the status quo continued until a state refinery was eventually opened in 1966. Rothschild had been aware of the possibility of the new refinery since 1963. During a visit to the Royal Mint Refinery by a development advisor of the World Bank, Ponna Wignaraja, it was learned that the Ghanaian Government were determined to take control of the country's gold trade and intended to establish a native gold refinery.

In order for the Ghana state mines to sell their gold output on the London or other reputable international markets it would be necessary for the gold to be refined to an acceptable minimum fineness and to cast bars to the standard laid down by the London market. In order to be accepted by the market the bars would have to be tested at one of the London refineries.⁷⁰² Rothschild had two options. The first was to do nothing, but by doing nothing they would certainly lose the gold refining, including the Ashanti business as it would almost certainly be 'obliged to have their gold output refined in Ghana'. Rothschild would lose the marketing of the gold if

⁷⁰² See, for an account of the 'privatisation' of the Ashanti Goldfield, Antoinette Handley 'Business, Government, and the Privatisation of the Ashanti Goldfields Company in Ghana' *Canadian Journal of African Studies*, 41 (2007), 1-37; As part of the development plan the State acquired major shares in a number of previously private enterprises. In order to carry out the purchase of shares the State sought financial assistance in the form of a loan for £5 million from the Bank of England, the loan was declined. It was suggested that the City would be in better position to assist with the request.

that happened.⁷⁰³ Or they could co-operate, possibly in collaboration with Ashanti. If they did this Rothschild might retain the marketing side and possibly the melting of the fine gold produced into marketable bars.⁷⁰⁴

History was about to be repeated. Similar to its experiences in 1922 when Rothschild had lost the lead in gold refining once the Rand Refinery opened, the establishment of the Ghanaian state refinery would affect the future of the Rothschild refinery. Ghana offered Rothschild the opportunity to manage the new state refinery, and provide technical aid in setting up the gold refinery; assistance from Russia had also been sought.⁷⁰⁵ Rothschild was consulted over the marketability of the Ghanaian gold and the fineness was set at 990/1000, a clear indication that the Government intended to continue to sell the gold through Rothschild as the fineness was suitable for offering to the London market.⁷⁰⁶ It also offered some reassurance to Rothschild that it would maintain some control over West African gold.

The Ghana state refinery opened in 1966, and while waiting for this Rothschild was keen to keep the costs of refining as low as possible, in order to continue to attract the state owned gold to the Royal Mint Refinery for as long as possible. So when Johnson Matthey suggested an increase in London refining charges Rothschild were in favour of maintaining the existing rate. In reviewing refining costs at the Royal Mint Refinery, including direct and indirect overheads, the rate 6d per ounce

⁷⁰³ RAL, 148/37/1, Ghana Gold, 28 Jun 1963.

⁷⁰⁴ Ibid.

⁷⁰⁵ Ibid.

⁷⁰⁶ Ibid., Memo to Edmund De Rothschild 'Gold Refining Particularly in relation to gold from Ghana', 11 Mar 1964.

was maintained providing ‘an adequate supply of refinable gold [was] maintained.’⁷⁰⁷

The Sheffield Smelting Company no longer refined any substantial quantity of gold and Rothschild and Johnson Matthey received the majority of gold treated in London. Calculations for 1964 show the levels of gold treated at by both firms were comparable.

Table 10. ‘RMR & Johnson Matthey treatment levels, 1964’

	RMR		JM
Country of Origin	ozs	Country of Origin	Ozs
Ghanaian	882,000	Rhodesian	544,000
Ethiopian	11,000	Tanganyikan	90,000
Other Countries	11,000	Other Countries (estimated)	20,000
Home Trade	60,000	Home Trade (estimated)	250,000
TOTAL	953,000		904,000

Source, RAL, 148/37, compiled using data from Gold Refining Charges, 11 Mar 1964.

The figures in Table 10, although estimated, show Rothschild was on an equal footing with Johnson Matthey. However, it did not include ‘service’ refining for Johnson Matthey’s own group, and had these figures been available it would certainly have increased the overall treatment levels. Rothschild did consider increasing the refining cost, but felt it too risky in view of the approaching renewal of the agreement for treating Rhodesian gold, due in the June, and the contract with Ashanti Goldfield, which was due to end on 31 December 1964. Sir Edward Spears, Chairman of the Ashanti Goldfields, whilst at lunch with Edmund at New Court in November 1964, encouraged Rothschild to be actively involved in the management of the new refinery in Ghana. Edmund declined the offer. He wrote to Spears over his approach noting that ‘I am afraid that you will be disappointed in our somewhat negative attitude, but we feel that the management of a gold refinery in Ghana would

⁷⁰⁷ Ibid.

be very difficult to control and we would have grave hesitation in assuming the responsibility for the operation.’⁷⁰⁸ The decision not to become involved in the management of a state refinery was on much the same basis as that of Edmund’s own father Lionel in 1919; and had also included the matter of security and the difficulties of overseeing such a venture from London, the necessary personnel and the cost of operating the refinery (discussed in chapter 3).

The future of the Royal Mint Refinery hung in the balance as news of the opening of the new refinery in Ghana was awaited. In the meantime a report was produced into working practices, and whether it would be viable to modernise the existing plant at the Royal Mint Refinery. The findings of the report were that the best course of action would be to reduce labour requirements and incorporate new plant, increase the productivity of existing labour, improve the quality of metal cast rolling, which would become a more important factor as gold refining fell away and retrain refinery staff to be more versatile. It was hoped that implementing these measures would lower future operating costs.

Edmund had instigated some changes at the Royal Mint Refinery in 1955 when he introduced a programme of reorganisation. It was already apparent that in the future the emphasis of production would be on non-ferrous base metal production rather than the treatment of precious metals. At that point in time the difficulty was the ad hoc development of operations, which meant that it suffered from being overstaffed and lacked co-ordination of tasks and efficiency, making operational overheads high. As a result it was said that the Refinery experienced:

⁷⁰⁸ RAL, 148/37, ‘Edmund de Rothschild to Sir Edward Spears, Ashanti Goldfields’, 26 Nov 1964.

A serious lack of drive and initiative and the tempo of the works as a whole is slow. The workers are good and loyal, but they lack leadership, and while it is essential to avoid physical strain in a heavy industry, there seems little doubt that by more efficient planning and drive much extra output could be obtained without any ill effects on the health or well-being of the men. The present administrative staffs seem unwilling to bring about changes for the better in this direction. They have no experience of what happens elsewhere, and the inevitable result is that in trading conditions production costs at the Refinery are much too high.⁷⁰⁹

The reorganisation of the Rolling Mill, Copper Foil, Plated Wire and Durmamet

Screens departments required the reallocation of the activities and responsibilities of staff, so as to avoid such anomalies as packing and despatch being separated. Staff were drawn from each department to form a new packing department to deal with all the products of the Refinery, with the exception of gold and silver. A new administrative department was also created, through the amalgamation of existing clerical staff, to cope with all the paper work generated at the Refinery. An internal candidate, Robinson, was appointed to head up the new clerical department. It was thought that 'he [was by] far the most efficient and able person amongst the clerical staff at the Refinery, and this new position would give greater scope to his abilities.'⁷¹⁰ The new method of working meant that each production unit became responsible only for the output of its product.

A firm of management consultants, Associated Industrial Consultants Limited (AIC), were asked to investigate the annealing capacity and profitability of the Rolling Mill department. It was suggested by them, in order to increase production levels, Rothschild appoint a skilled engineer, which would improve the overall profitability of the department.⁷¹¹ In the past one of the key strengths at the refining operation had been the traditional approach to training. Young men entered the

⁷⁰⁹ RAL, 148/29, 'Re-organisation of Refinery', 13 Dec 1955.

⁷¹⁰ Ibid.

⁷¹¹ Ibid.

refinery, generally on recommendation or through family ties, and skills were handed down by their fellow workers until they were able to treat the variety of gold and silver received at the Refinery. If their work was satisfactory, they could expect to remain with the firm until they retired. This method of training had been satisfactory when gold and silver had been the only activities undertaken at the Refinery, particularly as experience in refining was a specialised craft, which in London could only be gained in one or two other firms. However, in the post-war period Rothschild had failed to take on qualified and experienced staff from the light engineering industry as it expanded its activities, and the new techniques stretched the capabilities of the existing workforce. No one member of staff at the Refinery had an engineering qualification or had experience of working for another engineering works. The men were left to grapple with problems of engineering design and planning, and although almost invariably good results were produced, in time, had a skilled engineer been available it was probable that the same or better conclusions would have been reached in much less time and at much less cost.⁷¹² Rothschild eventually took steps to readdress the problem and engage the services of at least one qualified engineer who could bring his technical ability and experience to the developing operations. It was suggested that the ideal candidate would hold ‘an engineering degree and five to ten years experience in engineering works... it would probably be necessary to offer £1,500 per annum as a salary.’⁷¹³ It is unclear from records if a suitably qualified engineer was employed at that point.

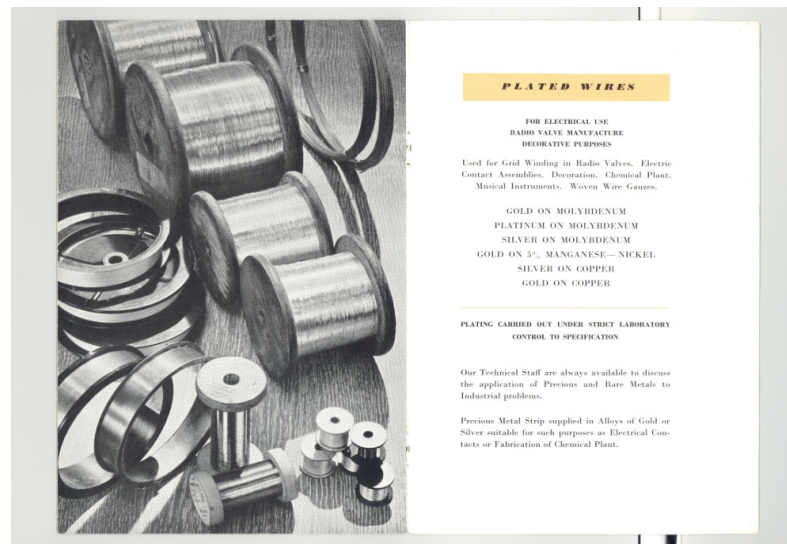
An important factor behind the urgency to facilitate change at the Refinery in 1955 was the monopoly in the production of thin copper foil. It was generally

⁷¹² Ibid.

⁷¹³ Ibid.

accepted by management that it was almost inevitable that ‘the happy state of affairs cannot possibly last for long and when competition comes, or even before, we must be in a position to produce this material cheaply and efficiently.’⁷¹⁴ By re-organising working practices it was hoped that the department would be ‘put on a sound commercial basis and that at worst the scheme would bring about economies and would undoubtedly also bring about greater efficiency.’⁷¹⁵ Rothschild management were keen that the workforce was made to realise the importance of economy and that ‘the good old days of ‘laissez faire’ have gone forever.’⁷¹⁶

Figure 18. ‘RMR Gold plated wires, 1950s’⁷¹⁷



The void left by the end of the treatment of silver was filled by the increased demand for electrolytically deposited copper foil. The decision was taken to dismantle some of the silver treatment plant to make way for the treatment of non-ferrous metals. In 1956 another foil plant was ordered, which took the operation to four. The Royal Mint Refinery, in addition to copper foil, produced copper-based

⁷¹⁴ Ibid.

⁷¹⁵ Ibid.

⁷¹⁶ Ibid.

⁷¹⁷ RAL, 000/1989, Promotional booklets, c.1950.

alloys of all kinds in the form of extrusion billets, ingots, rolling slabs and cast rods and bars, while its cold rolling plant handled substantial quantities of copper, brass and similar strip. Much of the copper strip was absorbed by the aircraft and motor industries and by manufacturers of coaxial cable.

The limiting factor in any future development and expansion at Royal Mint Street was the size of the site it stood on. During the redevelopment of the Refinery in the 1930s every available space had been incorporated into the new building. There was no potential for expansion. In addition the nature and character of the business meant the creation of fumes, some of which was noxious or toxic, or both. As discussed in the previous chapter the location of the current operation was only tolerated due to the longevity of the operation and any future development would have to comply with the increased environmental restrictions initiated the Clean Air Act 1956 recently been introduced to deal with the London fog.⁷¹⁸

Edmund, in his role as senior partner of N M Rothschild & Sons, took a direct approach to the workforce in his attempt to connect with them. He regularly visited both the Refinery and factory at Tring and addressed staff. He kept them updated with the performance of the business, prevailing economic conditions and orders in hand. In his address in December 1956 he observed the ongoing credit squeeze affecting British industry, which affected profits. Despite the disappointing orders for copper Edmund was pleased to report that the work carried out on cable for Telcon, the firm engaged in the trans-Atlantic cable laying project, had been ‘first class’, and additional orders had been placed for the planned Trans-Pacific cable.⁷¹⁹

⁷¹⁸ *The Guardian*, ‘Pollution Watch: Clean Air Act in 1956’, 9 Dec 2012.

⁷¹⁹ RAL, 148/41, ‘Edmund de Rothschild, speech to Refinery’, Dec 1956.

The general format Edmund's speech took was that he listed the firm's achievements and disappointments, remarking on the performance of individual departments. The tone of the address aimed to inspire confidence in the venture and attempted to send a positive message to the workforce regarding the trading position. He frequently tried to make individuals feel part of the 'team'. In his speech of December 1958 he observed that:

there is always a certain amount of glamour attached to a production department and sometimes we overlook the efforts of maintenance engineers, office workers, gate-keepers, painters, cleaners, cooks, chemists and all the others who by a united effort with the production workers ensure that the goods are supplied in sufficient quantity and on time to suit the requirements of our customers.⁷²⁰

Generally it was announced in the December speech if the workforce could expect a Christmas box. One help in the direct management approach favoured by Edmund was that unlike Anthony, he was able to spread the workload amongst a network of support, as the number of partners who joined N M Rothschild & Sons increased during the 1950s and 1960s. Edmund was joined by his brother Leopold and latterly his cousins, Evelyn and Jacob, and three non-family partners, David Colville, Michael Bucks, and Philip Shelborne.

By 1950 the trading position of the factory at Tring had changed. Whilst it traded as a separate entity from the London operation, both ventures remained linked. During the transition from the production of munitions, and the search for new product markets the firm continued to produce aircraft parts. Demand for aircraft parts remained high until the end of the Korean War in 1953. As Britain entered its 'Golden Age' both Rothschild ventures benefitted from the increased affluence and

⁷²⁰ Ibid., 30 Dec 1958.

consumerism of the period. Demand for the new range of products available at the Refinery, copper sheeting in particular for circuit boards, increased as ownership of homes and consumer durables took off; these included the ownership of a whole range of domestic appliances, cars and televisions.⁷²¹

John Flynn, the manager at Tring, filled any spare capacity with the development of ticket machines for bus companies and the production of cosmetic containers. In the post-war era raw materials remained scarce for a number of years. Flynn was the driving force behind the development and production at the factory. However in the late 1950s work on ticket machines had fallen off and by mid-1958 the factory was predominantly engaged in the production of lipstick cases. Tring became a customer of the London refinery, which supplied gilding strip for the cosmetic containers produced at the factory. The growth of the cosmetic industry reflected the rising affluence and consumerism located in British society and was particularly representative of the rise in popular culture and advertising, which challenges familiar views of Britain's post-war decline.⁷²² Capturing the rising cosmetic industry was one of the ideas put forward by Goodfellow (discussed in chapter 7) when looking at the areas of post-war activities that would suit the firm. The production of lipstick cases was not dissimilar to the production of billets that had formed one of the ranges of munitions work undertaken at Tring. The move had proved mutually beneficial for both operations. Rothschild caught the early take-off experienced by the cosmetic industry. Cosmetic firms looked to accelerate

⁷²¹ Peter Howlett, 'The Golden Age, 1955-1973', Paul Johnson, (ed.). *Twentieth Century Britain: Economic, Social and Cultural Change* (Harlow, Essex: Pearson Education Ltd., 1994), pp. 321-3.

⁷²² See, for detailed account, Lawrence Black and Hugh Pemberton (ed.) *An Affluent Society? Britain's Post war 'Golden Age' revisited* (UK: Ashgate, 2004); Becky Conekin, Frank, Mort and Chris Walters, *Moments of modernity: reconstructing Britain, 1945-1964* (London: River Oram, 1999).

production to recover lost markets of pre-war days, coupled with the changes in the fashion industry, sparked by the fashion house of Christian Dior in Paris in 1947, and provided a target growth market for the operation at Tring.⁷²³ Although production of lipstick cases began quite soon after the war it was during the mid-1950s that production was of the greatest significance. In 1954 most of the production was carried out for Coty, the firm's best customer, but work for Max Factor, Ponds, Elizabeth Arden and Luft Tangee also kept the factory busy. In February 1955 production ran at 188,000 cases a week.⁷²⁴ One employee at Tring, Heather Keen, had worked on the production line at the factory after leaving school in 1946, placing metal tubes in the rotating machines before the edges were trimmed and went off for annealing. Most of the production process was automated but there was still a considerable amount to be completed by hand.⁷²⁵ The workforce at Tring, predominantly women, performed tasks that required no great skills in the assembly shop. The workforce at Tring had grown from 130 in 1950 to 280 by 1956.⁷²⁶ Rothschild was one British industrialist that reaped the benefits of the seller's market identified by Addison.⁷²⁷ One strategy adopted by the firm was to expand overseas exports. Flynn made a trip to America in 1956, following an approach by the American company Chesebrough-Pond. The chemist and cosmetic firms had recently merged and were looking for production outlets in Europe. He concluded that on this occasion the approach from Chesebrough-Pond would have to be passed over. His reasoning was that set-up costs for the venture would be in the region of

⁷²³ See, for an account of the recovery of the post-war fashion industry, Addison, *Now the War is Over*, p. 172; David Kynaston, *Austerity Britain, 1945-51* (London: Bloomsbury, 2008); Lawrence Black, *The Political Culture of the Left in Affluent Britain, 1951-64: Old Labour, New Britain?* (Basingstoke: Palgrave-Macmillan, 2003).

⁷²⁴ RAL, 000/1242, 'Tring a Memoir'.

⁷²⁵ Letter 'Heather Keen to Michele Blagg', Nov 2011.

⁷²⁶ RAL, 000/1242, 'Tring a Memoir'.

⁷²⁷ Addison, *Now the war is Over*, p. 173.

£45,000 for plant and tools, and at that particular time the size of the market in Britain did not justify the large capital investment.⁷²⁸

Figure 19. 'RMR Engineering, Ticket Machine'⁷²⁹

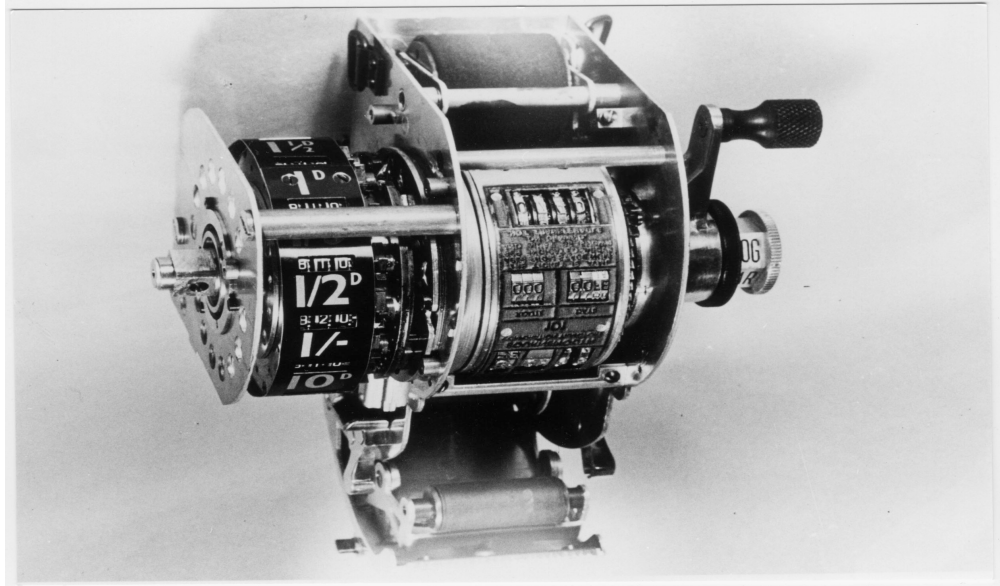
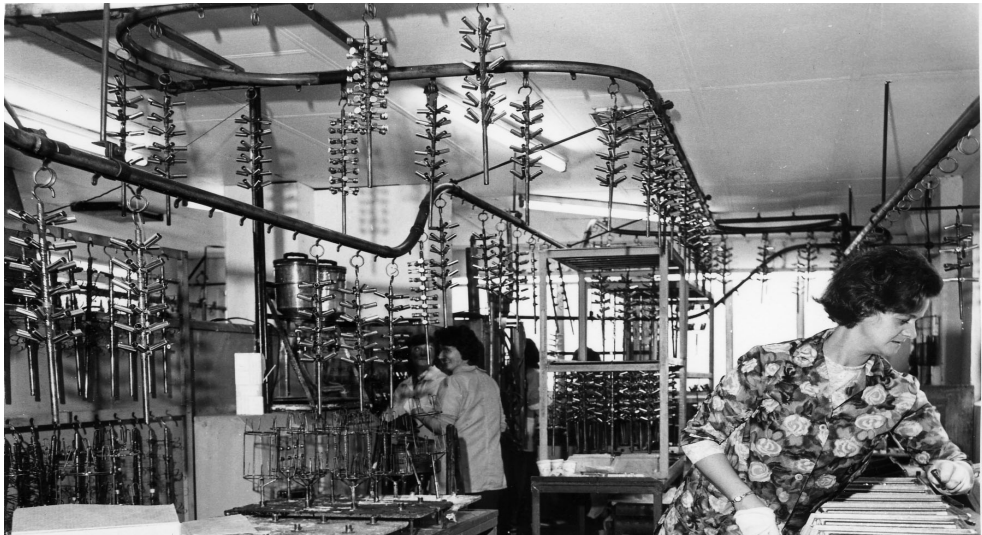


Figure 20. 'RMR Engineering Lipstick production, c.1965'⁷³⁰



⁷²⁸ RAL, 148/41, 'Report on American Trip' prepared by J Flynn , 26 Apr 1956.

⁷²⁹ Reproduced courtesy of Mike Bass, Tring.

⁷³⁰ Reproduced courtesy of Mike Bass, Tring.

Figure 21. 'RMR Engineering, Lipstick case and face shader container',⁷³¹

Whilst in the United States Flynn took the opportunity to call on a number of cosmetic firms as way of promoting the products on offer at Tring. He toured American operators, and spoke with a number of light engineering firms. In his trip report Flynn observed that American lipstick case production methods were considerably more advanced than those at Rothschild; one American firm, where the operation was nearly full automated, produced 120 million lipstick cases annually.⁷³² He was pleased to report that there was still business to be done between Tring and the USA. Flynn learnt while visiting Revlon that the firm was dissatisfied with their existing supplier, the greatest competitor for products from Tring, Websters of Bournemouth. Revlon were keen to switch supplier. However, Flynn was concerned because he discovered that Revlon rather than buy from Tring was considering plans to open a factory in South Wales, and had been attracted to the area by the lower wage rate.⁷³³ Nevertheless, Flynn noted that 'I am of the opinion that the facilities at

⁷³¹ Photograph courtesy of Tring and District Local History Museum.

⁷³² Ibid.

⁷³³ Ibid.

present in England for the production of Lipstick cases is not large enough or good enough to meet the demand which the American owners anticipate will be required in the near future.’⁷³⁴

Figure 22. ‘RMR Christmas Party’⁷³⁵



Throughout the 1950s and 60s the operation at Tring had a number of recurring problems that proved to be obstacles to the smooth running of the factory: scarcity of raw materials, cost effective production, retention of labour, foreign competition, and conformity with new Government legislation. Many of these obstacles regularly appeared in the minutes of the monthly meetings of the works committee, formally known as the JPC (discussed in chapter 7). David Colville, who in 1960 became the first non-family Partner at N M Rothschild & Sons, attended the meetings. They provided a platform for management and members of the workforce to raise concerns they had about the operation of the factory. Recurrent themes, which by some members were considered petty, regularly appeared in the minutes. These

⁷³⁴ Ibid.

⁷³⁵ Reproduced courtesy of John Linton.

included such items as bonus payments, lack of heating during the winter and excessive heat during warmer weather, the location and timing of payment of wages, the cleanliness of cups in the canteen, the lack and variety of food served in the canteen, the temperature of tea served, constant requests to start on time, the volume of music piped around all departments, the synchronising of clocks, queue jumping to clock out and so on. Management concerns generally stemmed from the economic conditions of the day and concerned productivity, including the downtime of assembly lines, worker punctuality, attendance, output and standards. Other functions performed by the committee included the annual agreement to close the factory for the fortnight of paid holiday, normally the last week of July the first week of August, and the agreement of the dates of annual events. These included a day trip to Southend every June, paid for by the firm, and in December a Christmas party for adults and one for children.

In the post-war years Colville often visited Tring to smooth over any difficulties arising between the volatile manager, Flynn, and newcomers to the factory from other industries who would have preferred the backing of a union. In line with New Court and the Refinery, no elected trade union represented the workforce at Tring, although a number of workers belonged to a union they had joined prior to their engagement at the factory. In 1956 it was through these existing connections that workers at Tring had been canvassed by a Mr Harrowell, the representative of the Watford Branch of the Amalgamated Engineering Union (AEU), and urged to join the branch. Threats over the cancellation of certain contracts the Tring factory was involved in had been made in a letter sent to all workers by the AEU.⁷³⁶ Despite

⁷³⁶ RAL, XI/111/1631, Works Committee, 'Meeting:80', 10 Apr 1956

these threats Flynn felt that it was unnecessary to invite union representatives into the factory. Colville stepped in to smooth matters over, taking charge of the potentially volatile situation by informing the works committee that ‘he wanted to make it quite clear that the firm had never raised any objection to any employee joining whatever union they wished, but that he had felt bound to refuse Mr Harrowell’s request that the management should invite all workers to join the AEU’.⁷³⁷ Colville went on to say that ‘he had agreed to existing members inviting non-members to join, but had asked that they should do this during the breaks and not during working hours’. He pointed out that:

his reason for refusing to allow the Management to persuade workers to join the union was because such persuasion was the same as saying to a worker, who might have been with the firm for 20 years, that unless he joined he would have to be given the sack, and this he was on no account prepared to do.⁷³⁸

He added that ‘whilst recognising fully the great work which the unions had done for workers in the past, it was nevertheless the responsibility of the firm to protect their employees to the best of their ability’. He assured the Committee that even if the threat to cancel contracts came to fruition ‘there was ample work in the factory to keep everybody in their jobs.’⁷³⁹ The workforce accepted this and it was left to Mr Colville to contact Mr Harrowell to explain the situation. The effectiveness of the work committee lay in the willingness of management to listen to the complaints of the workforce and to take appropriate action and therefore there was a general lack of support for union representation.

⁷³⁷ Ibid.

⁷³⁸ Ibid.

⁷³⁹ Ibid.

During the 1960s products manufactured at Tring were exposed to greater competition from overseas producers. In the volatile economic climate it proved harder to maintain profits. The problem was exacerbated with the constant shortage of labour at the factory and the failure to attract a workforce to Tring. RMR Engineering had always relied upon recruiting workers from the surrounding areas. In the 1950s management converted the works lorry to carry passengers from the surrounding areas not serviced by a local bus, who were picked up and dropped off at the factory. Later they successfully negotiated with local bus companies to rearrange routes and timetables to coincide with factory hours. Subsidised travel was also provided, and minibuses were laid on. Incentives were offered to employees to introduce new people to work at the factory. Immigrant workers became a growing group at the factory throughout the 1960s. Workers on the nightshift were generally Asian men.⁷⁴⁰ Two opposing groups emerged at the factory that frequently clashed on racial grounds. The lure of housing brought some workers into the area. Rothschild had been involved in building a number of subsidised houses in the area (discussed in chapter 7). A further scheme for an additional 10 houses was approved in January 1950.⁷⁴¹ The prospect of being housed appealed to potential employees and a number applied for jobs at RMR Engineering on the back of being housed. In addition many of the women from the nearby Polish Resettlement Camp at Williston worked at the factory during the 1960s.⁷⁴²

Friction between the different groups of workers sometimes boiled over and appeared in the JPC minutes. Frequent complaints were made about the Asian

⁷⁴⁰ Private conversation with Dennis Champney, former production manager at RMR Engineering, 16 Sep 2011.

⁷⁴¹ *The Bucks Herald*, 6 Jan 1950.

⁷⁴² See, for an account of immigration into Britain, Addison, *Now the War is Over*; Randell Hanson, *Citizenship and immigration in Post-war Britain* (Oxford: Oxford University Press, 2000).

women and men spitting around the factory. When the question of redundancies arose, it was presumed that the 'Poles' should go first.⁷⁴³ The ruling on the issue of redundancy was discussed and the following agreed by the committee:

If a Pole had longer service than an Englishman, he would be retained. If the Pole had the same length of service but was a more satisfactory operator, he would probably be retained. If an English Worker and a Polish Worker had been engaged for the same period and their work was of the same standard, then the Pole would be discharged.⁷⁴⁴

The agreement was not tested. Despite a number of slack periods experienced by RMR Engineering workers were not laid off, but generally left of their own accord or in the pursuit of higher wages.

Over three decades the average working week for the workforce at Tring reduced from 47 hours to 40. The first reduction, from 47 to 44 hours, took place during the immediate post-war slump experienced by the firm. The introduction of the 40-hour week came in 1964. Rothschild was not as generous to workers as it had been in the past, as the same rate of basic pay applied but was adjusted to a 40-hour week. Workers were awarded individual performance bonuses to increase their basic wage. In addition Rothschild annually gave each worker a Christmas box, as a sign of appreciation, linked to the length of service. The bonus was subject to the profitability of the firm and adjusted each year. With the exception of 1962, 1970 and 1972, when profits were so poor that no Christmas box was given, generally the bonus ranged between £1, for less than 12 months service, up to £15, for those with a service over 10 years.⁷⁴⁵ The lavishness of the Christmas party was also linked to company profits. Some years it took place at the local Victoria Rooms, with a

⁷⁴³ RAL, XI/111/1631, Works Committee, 'Meeting: 141', 27 Jun 1962.

⁷⁴⁴ RAL, XI/111/1631, Works Committee, 'Meeting: 87', 18 Feb 1957.

⁷⁴⁵ Ibid., 16 Nov 1965.

catered buffet, and other years it was held in the works canteen. Attendance was poor and towards the end of the 1960s the workforce decided that they would forgo the annual event, preferring a Christmas box. The same fate befell the annual outing to Southend and the children's Christmas party. It was decided through the JPC that due to a lack of interest any future events could be organised via the recently reformed social club. Support for the social club was limited, and the running was left to a few willing individuals. Rothschild provided a meeting room at the factory for social events. The main event supported by workers at the factory was the annual cricket match hosted at the Exbury estate of Edmund de Rothschild. Other club activities included table tennis and swimming.

In 1966 the factory manager John Flynn, suffered a heart attack and died in the yard at Tring. John Linton, his deputy, and Dennis Champney, the production manager, were appointed as joint general managers. Linton's area of responsibility was for the administration of RMR Engineering, and Champney's for production. The two men complemented each other. New product lines were introduced, machinery was updated and orders for lipstick cases steadily grew; in March 1968 each order approached three million cases, and 25 per cent of the cases produced went for export to the United States.⁷⁴⁶ New machinery was installed and the factory moved into the manufacture of plastic components for lipsticks and bottle caps. Colville informed the Works Committee that 'although we are very busy we are not making any profit which may mean our prices are too low.'⁷⁴⁷ RMR Engineering felt unable to increase the unit price of products, despite the increased wages to their workers, part of the national engineering pay awards, and the general rise in the

⁷⁴⁶ Ibid., 'Meeting:199', 12 Mar 1968.

⁷⁴⁷ Ibid., 'Meeting:230', Apr 1971.

overheads at the factory.⁷⁴⁸ The full order books were not reflected in the firm's profitability.

Profit margins were just as tight at the Refinery. At the start of the 1960s the rolling mill department received a series of large orders. One customer, Ruberoid, had placed large orders for foil, to be used in the construction of the Birmingham-Liverpool motorway. The period also saw a high demand for copper foil for printed circuit boards, an expanding market.⁷⁴⁹ Low returns were reported for the rolling mill operation. The volatility of the price of copper (prices rose as the commodity became scarce) and the unreliability in supply both hampered the economic viability of the operation. In addition the operation was further hindered by the advantage European and US firms had over Britain, where the price of copper was generally higher.⁷⁵⁰ It became increasingly difficult for British firms to compete with these competitors. Rothschild had already recorded that there was a limited amount of business scope for copper foil.⁷⁵¹ In 1962 news reached Rothschild that a US supplier had installed plant and planned to open a factory outside Paris producing copper foil. It was not long before news came that a second US firm, Brush Clevite Company of Cleveland Ohio, were looking to install a factory in Europe to manufacture copper foil for printed circuits. In August 1965 William Laffer, president of the Clevite Corporation, paid a visit to Rothschild. Laffer was keen to establish if there would be scope for two foil-producing plants in Britain, or whether Rothschild might be

⁷⁴⁸ Ibid.

⁷⁴⁹ RAL, 148/37, 'Ken Belcher to Edmund de Rothschild', 14 May 1965.

⁷⁵⁰ See, for example, Graham Rees *Britain's Commodity Markets* (London: Paul Elek Books, 1972), in particular chapter 17, section 5. World War II and its aftermath, which discusses the market volatility in relation to non-ferrous metals.

⁷⁵¹ RAL, 148/37/1, 'Copper Foil', report prepared by Ken Belcher, 9 Nov 1962.

interested in selling their plant to them.⁷⁵² An examination of the future viability of its own plant and the volume of business anticipated for printed circuit foil in Britain revealed it could expect in the region of 450,000 to 500,000lbs per annum.⁷⁵³ The maximum potential production at the Refinery lay between 600,000 and 700,000lbs. A deal was struck and the acquisition by Brush Clevite of the copper foil operation was finalised in 1966. All machinery and production plant was to be included. Part of the condition of sale was that Brush Clevite would occupy the third floor of the Refinery, rent free, until 1 October 1966, thereafter they had the option to rent the space for a further six months. However, the US firm opted to erect a purpose-built factory in Southampton, and once this was completed, the plant was relocated to the new site. Workers in the copper sheet and rolling mill department were informed of the sale, and given the option to continue their employment with Brush Clevite, relocating to Southampton, or take redundancy. While this was happening, Rothschild was also contacted by a friendly competitor, Enfield Rolling Mills, that wished to purchase the wire plating operation. A deal was agreed and workers in the wire department were offered the option to move to the new firm or take redundancy.

In January 1966 Partners at N M Rothschild & Sons received a report setting out various options for the future of the Royal Mint Refinery.⁷⁵⁴ The new Ghanaian state refinery was due to commence operation in September 1966, and although the amount of gold it would be able to handle was predicted to be low, eventually it was expected to treat the country's whole production. On that basis it was assumed that

⁷⁵² RAL, 148/37, Memorandum - Silver, 'Belcher to Williams', 25 Aug 1965.

⁷⁵³ Ibid.

⁷⁵⁴ RAL, 46/207, Edmund de Rothschild, Special Correspondence, 'The Refinery – Its Future', 15 Jan 1966.

no gold from Ghana would be received and plans for the future of the Royal Mint Refinery were made.⁷⁵⁵ One option was that the operation should continue to treat gold and silver in the basement and ground floor. The upper floors could be redeveloped and let as office space and flats. Concerns over security issues, and the projected cost of £165,000 to implement the changes compared to potential earnings from the refinery and from rent made this uneconomical.⁷⁵⁶ Another possibility was to relocate the refining operation, which would free up the existing site to be sold and help pay for the move. A site near Old Street station was put forward, again the estimated cost of relocating, purchase and setting came in too high at £335,000. Questions were raised by a number of Partners over the desirability of retaining the business and whether it was worthwhile to maintain the industrial enterprise ‘and all it entails’; it was thought to be a lot of effort for a small return.⁷⁵⁷ Nevertheless, one important function undertaken by staff at the Refinery had been the movement of gold around the City and for reasons of ‘prestige’ Partners voted to continue to handle the existing volume of gold, on average 300 bars a day, though a peak had been reached of 1,500 bars in a day.⁷⁵⁸ It was therefore decided that the best option would be to abandon refining but to retain the transportation of gold and market activities, and to locate the bullion solely at New Court.

In 1967 a series of events happened that could have potentially reversed this decision. First the refinery in Ghana opened. During a visit to the Royal Mint Refinery two representatives from the Ghana State Mining Corporation informed Rothschild of a number of matters which had still to be resolved. Unlike the chloride

⁷⁵⁵ Ibid.

⁷⁵⁶ Ibid.

⁷⁵⁷ Ibid.

⁷⁵⁸ Ibid.

method of refining used in London the government had opted for the electrolytic process. Although by May the building and plant were ready the local problem of accommodation for workers remained outstanding. There were also concerns over the small matter that Ghana had no experience whatsoever of any type of chemical plant, and the large amount of gold which a chemical plant ties up in its process. Although electrolytic gold would command a premium, it varied, and was sometimes very small if the general supply available in the market was large. Rothschild was also informed that it was unlikely that the Refinery would be operated with Russian assistance; it was noted that employing one Russian technician meant also the employment of 'an assistant, two commissars and an interpreter to go with him, and this was a somewhat expensive arrangement.'⁷⁵⁹ If and when the Refinery opened a management agreement would be sought with an independent operator.

Second, the chancellor of the Exchequer announced that the Royal Mint was to move from Tower Hill to Llantrisant, near Cardiff. The move was due to the chronic shortage of space.⁷⁶⁰ Any advantage Rothschild had in neighbouring the Royal Mint would soon disappear. Third, the Treasury announced that the pound was to be devalued, and as had happened in the past, the move stimulated the gold mining industry and production levels of newly mined gold increased. The London bullion market was awash with gold and the Rothschild refinery was kept busy treating gold and moving bullion around the City; the movement of gold bars increased to 921 a day and one day it reached 2,430 bars.⁷⁶¹

⁷⁵⁹ RAL, 000/1109, Partners conference, Memorandum 'Ken Belcher to Edmund de Rothschild', 26 May 1967.

⁷⁶⁰ C E Challis, *A New History of the Royal Mint* (Cambridge: Cambridge University Press, 1992), p. 611.

⁷⁶¹ RAL, 148/37, 'Breakdown of handling gold bars', Jun 1967.

Finally, the American chemical company Engelhard were approached by Rothschild as it had been established they were interested in purchasing the Royal Mint Refinery. Negotiations began in 1967 and were kept under wraps until details of the sale could be worked out. However, the sale was nearly thwarted when on 1 May 1967, much to the embarrassment of Rothschild, the Refinery bullion van came under attack. Thieves stole the consignment of 144 gold bars, at the time estimated to be worth £750,000. The British press reported that it was the single biggest haul of gold in Britain. The driver and two crew members were gassed, tied-up and left in the back of the empty van as thieves made their getaway. The driver was injured as he attempted to hit the panic button. Although legislation had been passed in 1961 for London guards to carry guns, Rothschild employees, by choice, did not do so; instead they had a baton for protection.⁷⁶² Was it just bad luck that the firm was targeted by thieves just as the sale of the Refinery was imminent? One of the repercussions of the claim was that insurers increased rates for the carriage of gold around London and lead to a review of the movement of gold between institutions.⁷⁶³ The Bank of England noted that ‘it is not at all surprising that the underwriters, who have been let down by the gross carelessness of those they insured, should now seek to reimburse themselves on this underwriting account.’⁷⁶⁴ As a result, Rothschild felt unable to carry on transporting gold on the Bank’s behalf.

The Bank of England had one month before the higher premiums came into effect. Members of the gold market were consulted to find the best solution, for

⁷⁶² RAL, 5/110/5, Partners Conference File, 3 May 1967.

⁷⁶³ BEA, C52/58, ‘Confidential Report Transit of gold in London’, 16 Jun 1967.

⁷⁶⁴ Ibid.

reasons of security and economy, to reduce the physical movement of gold between members of the market to a minimum. The preferred option was that the Bank would offer the six members of the market gold set-aside accounts. It was proposed that the Bank would make no charge for the maintenance of the set-aside account nor for any transit between accounts held at the Bank. A charge of £1 for four bars per box would be made for gold to be exported, and a minimal delivery charge for bare bars would be made.⁷⁶⁵ The Bullion Office felt that the scheme would work provided that ‘we are not embarrassed for space by the amount of gold that the market wish to hold here, and that we ourselves could allocate all the bars in fulfilment of market orders rather than having to work to an exact fine ounce figure of their selection.’⁷⁶⁶ Hours of collection and delivery were restricted to between 10am and 4pm, with at least 48 hours notice being provided. Gold was not expected to remain in the Bank for more than a month. The Bank was willing to mark the boxes with the members brand but was not prepared to differentiate the packaging used. The arrangement was to begin on the 24 July and a review of the total gold to be kept on account for each member was set at a maximum limit of 15 tons, approximately 1,200 bars, although it was agreed that periods of short excess at not too frequent intervals would be tolerated. Rothschild, following enhanced security to the refinery van, and Johnson Matthey continued to collect and deliver gold to the Bank of England. The Bank of England and the other members subscribed to the professional security companies. The financial loss of commission for Rothschild was said to be in the region of £12,000 per annum. However the increased activity of the gold market more than compensated for this loss.⁷⁶⁷

⁷⁶⁵ Ibid., 4 Jul 1967.

⁷⁶⁶ Ibid.

⁷⁶⁷ RAL, 000/1003, Foreign Exchange and Bullion Department Report, 31 Mar 1968.

In June 1967 negotiations for the sale of the Refinery to Engelhard resumed and plans for the sale were finalised in November. The sale was announced to customers and was also reported in the British press.⁷⁶⁸ The remaining workforce transferred to the new company, went to work at New Court, retired or opted for redundancy. The site in Royal Mint Street had not formed part of the deal and was later sold to the Ministry of Public Buildings and Works for re-development. One employee described the process of packing up the business and having to decide whether the trappings of 115 years were sent to the new works, scrapped or sold off.⁷⁶⁹ Early in November 1968 the Refinery stood empty and the gates to the courtyard were closed for the last time.

The disposal of the factory at Tring took longer. Negotiations for the sale of the engineering business and equipment to Associated Tooling Industries Limited, and the subsequent sale of the land to Elkvale for primarily residential development were completed in 1974. Why the delay? The most compelling argument advanced by Champney, the former production manager at Tring, is that Rothschild had wanted to sell the venture as a going concern because they did not want to be responsible for making half of the population of Tring unemployed.⁷⁷⁰ Just after the decision was taken the sale was hindered by trade union disruption and power strikes that besieged British industry in the early 1970s. In January 1974 the workforce, like so many others, was forced to operate a three-day week even though the order books were full. The firm paid full pay to staff for the first couple of weeks, thereafter pay was

⁷⁶⁸ *The Times*, 'Rothschild to drop Refining', 14 Nov 1967.

⁷⁶⁹ RAL, 000/1242, 'The Royal Mint Refinery in the Twentieth Century', p. 11.

⁷⁷⁰ Private conversation with Dennis Champney, 16 Sep 2011.

only made for the hours actually worked,⁷⁷¹ which for the next three months was only Mondays, Tuesdays and Wednesdays. In an attempt to operate on the remaining two days Rothschild purchased a generator from the United States, which finally arrived at the factory two months into the dispute. The venture was placed under enormous strain and Linton and Champney were asked to prepare a report to assess the value of machinery and the cost of redundancy payments should the factory be closed. Champney recalled that the initial formula for estimated redundancy payments was considered too high, and it was reduced by 20 per cent several times until an affordable package was arrived at.⁷⁷² Negotiations for the sale of the business to Associated Tooling Industries Limited began and Rothschild was led to believe jobs would be secure. However, soon after the sale completion it became evident that the firm had purchased the factory and machinery as an asset-stripping venture. The main machinery was removed from Tring and installed in the firm's own premises. Both the managers of Tring, Linton and Champney, along with a number of workers, moved over to the new firm, but most left soon after. The site of the Old Silk Mill on which the factory stood was sold to Elkvale primarily for residential development. In 2011 the factory and outbuildings still remain on the original site which has been developed into a small business park.

In conclusion, Rothschild would probably not have established or chosen to operate a light engineering operation at Tring had it not been for earlier financial incentives offered by the Ministry of Aircraft Production for the production of munitions.

During the transition from war to peacetime production new markets opened up. It was ambitious to expect that the factory in Tring would be able to compete with

⁷⁷¹ Ibid.

⁷⁷² Ibid.

established operators with previous market experience and contacts. Whilst the firm experienced a number of market downturns, knock on effects from the trend in the cosmetic industry, the range of other products produced, ticket machines, aircraft parts, screws and later plastic components meant that during these downtimes workers could be engaged in other tasks. The main drawback of the operation at Tring was the ability to attract and retain a sufficiently large enough workforce to service the growing order books. RMR Engineering was not as attractive a proposition as a gold refinery and when the decision to sell was made it took longer to generate interest.⁷⁷³ Rothschild considered themselves sensitive employers and were prepared to wait for a sale that would bring some continuity of employment in the area.

The fate of the Royal Mint Refinery was out of the control of N M Rothschild & Sons. International restrictions on the sale and movement of gold had shackled a return to the primary function of the Refinery in the immediate post-war era. Once gold returned the management had to contend with new challenges imposed through decolonisation. Hit once again by the establishment of a state refinery, this time in Ghana, the supply of gold requiring treatment significantly reduced. Rothschild, unlike Johnson Matthey, had failed to increase their share of the international market and diversify into treating other precious metals. However, the venture had successfully diversified into other new areas of production. By the 1960s the venture had outgrown the original location. It was inevitable that in order to keep up with the

⁷⁷³ In 2011 a lipstick case priced at \$60 marked a growth market for the exclusive production of lipstick cases. See 'Caviar, retinol and glamorous packaging: Since when did lipsticks cost \$60?' <www.dailymail.co.uk/femail/article-2060525/Caviar-retinol-glamorous-packaging-Since-did-lipsticks-cost-60.html> , accessed 11 Nov 2011

pace of growth Rothschild would have to relocate and establish larger premises away from the City. The post-war diversification into areas of production away from the main core of the firm's business, gold and silver refining, increased the overall size of the operation, which in turn increased the management workload and commitment to operate a business of this nature. The rolling mill, copper and wire departments were snapped up when offered for sale. Rather than entrepreneurial failure I would suggest that the sale of the venture was a matter of choice. Had the operation relocated it would have been a major long-term shift for Rothschild. After all the Royal Mint Refinery was a side line for the merchant bank. It provided a function and had a place in the chain of business activities which Rothschild was engaged in. The main value to N M Rothschild & Sons of operating the Royal Mint Refinery was the access it provided to gold and the prestige it offered.

Chapter 9

Conclusion

Rothschild is one of those names that resonates through many chambers of history. As the world's leading bankers in the nineteenth century their history is intertwined with that of most European countries and many further afield. Through their many and multinational enterprises they continue to attract much attention from historians straddling a wealth of disciplines and approaches. Early in the nineteenth century Rothschild's relationship to gold was secured through its ability to supply consignments of bullion to governments at short notice and in large quantities. Rothschild relationship to gold has deepened over the last 200 years. Through a succession of investments and expansion in relations with overseas mining enterprises Rothschild maximised its command over precious metals. Among their enterprises was that of the Royal Mint Refinery, which treated much of the bullion sent to the London market from around the world.

This thesis is the first in-depth examination of the Royal Mint Refinery. In the mid-nineteenth century Rothschild saw great opportunity in operating a refinery in London, as world gold production increased tenfold. In 1848 Alphonse de Rothschild (1827-1905), on a trip to New York wrote back to the Paris house that 'there is much sensation as to the gold mines in California. It seems one only has to go down and pick it up.'⁷⁷⁴ From the Cape in 1888 he wrote to his cousins in London of:

⁷⁷⁴ RAL, T49/49, 'Alphonse, New York, to Paris House', 5 Dec 1848.

the amazing stories of the riches in abundance of mining in the Cape... to listen to some of them this country has got treasures within reach as real and comparable with those of Aladin's grotto. The gold arriving in Europe should greatly please the Bank of England.⁷⁷⁵

Carl Mayer had no hesitation in promoting the Cape to the London house. In his opinion 'these fields have an enormous future before them' and 'the country together will for the next 10 or 20 years offer greater scope for European capital than South America and similar countries.'⁷⁷⁶ For the first fifty years of the operation, there was little competition and it appeared to be a successful prestigious enterprise.

The study showed that as the twentieth century began, Rothschild had invested significantly in the Royal Mint Refinery, introducing new refining techniques and upgrading equipment and had confidence in its future.⁷⁷⁷ In 1905 Charles Rothschild wrote 'my refinery is forging along nicely.'⁷⁷⁸ Later in the year he wrote that 'I am glad to say that I really think I have improved our bullion business both as regards process and the volume of the stuff treated.'⁷⁷⁹ He considered the gold bars produced in London as 'works of art'.⁷⁸⁰ The position of the London refining industry was reinforced through the unrivalled position London held as the world's most important gold market. Rothschild now had some competition in Johnson Matthey's refining operations,⁷⁸¹ but the two companies co-operated with each other through a series of price fixing agreements, together with the general increased levels in gold production, eradicated the remaining competition.

⁷⁷⁵ RAL, T43/8, 'Alphonse to NMR', 29 Dec 1888.

⁷⁷⁶ RAL, T43/3, 'Carl Meyer to NMR', 26 Mar 1892.

⁷⁷⁷ See, chapter 2, p. 34.

⁷⁷⁸ RAL, 000/1323, Letter book N Charles Rothschild to Hugh Birrel, 18 Mar 1899 to 19 Apr 1908, 21 Jul 1905.

⁷⁷⁹ Ibid., 15 Oct 1905.

⁷⁸⁰ Ibid., 27 Nov 1905.

⁷⁸¹ See chapter 3, p. 76.

This excellent position slowly evaporated during the first half of the twentieth century and the continued viability of the Royal Mint Refinery was frequently questioned by Rothschild partners. Chapters 3 and 4 discuss the challenges faced by the Royal Mint Refinery in the face of the growing autonomy of both the Government and gold producers of South Africa during the interwar period. Research demonstrated the approach taken by Rothschild following the establishment of the new Rand Refinery at Pretoria, which heralded a critical phase in the history of the Refinery. Not only was the Rothschild refinery exposed to overseas competition it also had to contend with the force of the Bank of England as it set up in direct opposition to Rothschild and Johnson Matthey as it attempted to forge greater links to South African gold. This attempt failed and raw gold sent to London for treatment significantly reduced. However, Rothschild maintained its connection to gold sent to London through its appointment as agent for both the gold producers of South Africa and the Bank of England and its position as chair of the daily Gold Fixing established in 1919 to sell gold in the London market. This thesis shows how the Refinery survived the attack and was able to diversify into the treatment of silver until it could return to its primary task of treating gold. During this period Johnson Matthey was the real winner for although it mothballed its gold treatment plant, it took advantage of the quiet market and advanced its own treatment capability for precious metals and introduced a range of new services. In addition it revamped and streamlined its operation investing in new premises and equipment and forged alliances with treatment facilities overseas. The investment catapulted the firm into a different league from that of the Royal Mint Refinery.

Whilst progress at the Rothschild refinery did not keep pace with Johnson Matthey neither did it stand still. During the 1920s and 1930s regular investments and upgrades to facilities were implemented. This demonstrates the confidence Rothschild had in the future of the Refinery. This thesis suggests that rather than a lack of entrepreneurial spirit, the periods of downturn at the Royal Mint Refinery were due to external forces beyond the control of the firm: the decline in Britain's relationship to Empire gold; in particular broken ties with the London market, which allowed gold to be sent to markets that offered the highest price. From 1929, following the series of international financial crises and the widespread abandonment of the gold standard from 1931, gold business returned to London, deemed a safe haven. The Royal Mint Refinery benefited from the upswing and profits escalated to an all time high.

Chapter 5 looked at the effects of the 'gold rush' of 1932. The return of gold to London secured the future of the Rothschild Refinery for the remainder of the decade. Much of the profits generated from treating the torrent of scrap gold were reinvested, a further sign that Rothschild was confident about the future and wished to continue their association with gold. The operation was modernised, structural alterations made and new rolling mill equipment introduced. Although the primary function of the operation continued to be bullion treatment, which took precedence over all other work, the rolling mills increased future prospects. Rothschild was keen to celebrate its connection to gold through its operation and openly courted publicity through the media.⁷⁸²

⁷⁸² See, chapter 5, p.134-5.

Whilst change was ongoing the real catalyst came with the outbreak of war in 1939 and business at the Refinery was transformed as new lines were added. Gold and silver treatment reduced to a trickle as markets closed and movement restrictions implemented by governments. Rothschild carved a niche for the Refinery, rolling metals under government contract and producing munitions. The firm secured financial assistance to establish a 'shadow' factory at Tring. Remarkably, despite wartime restrictions, in 1941 the factory at Tring was equipped and a workforce engaged. As highlighted in chapter 6 the workforce in London experienced a different war to that of Tring. Staff in London had to contend with aerial attacks and disruption to services. However, both workforces made significant contributions to the war effort. Research into the period identified a shift in the Rothschild style of management; in particular the appointment of a specialist manager to oversee the Tring operation. In addition much of the government wartime administrative practices were adopted by Rothschild and new reporting procedures and monitoring processes enhanced record management. The growth had a positive effect on future accounting practices at the Refinery and Tring. As peace returned in 1945 and government contracts faded these new systems enabled the firm to select target growth sectors.

During the period of transition from war to peace the Refinery was prevented from returning to its primary function of treating bullion as the industry was affected by government restrictions, as well as the continued closure of the London gold market. Chapter 7 revealed much about the post-war reconstruction strategy of Rothschild that developed in terms of alliances formed with suppliers and buyers. Professional assistance was called upon as a firm of business specialists were

consulted to identify target markets that offered maximum appeal for the range of products that machinery could be converted to manufacture. As demonstrated in chapter 8 the period of transition was comparatively smooth as Rothschild continued to build its order books and attempted to take control of various market sectors. Once the London gold market reopened it assumed its place as chair of the gold fix and sought to secure a share in emerging gold production from new operations in Africa. In the absence of local refineries, gold was still sent to London for treatment. In addition Rothschild turned to the United States in an attempt to capture a greater share of the growing cosmetic market for its operation at Tring. Whilst overall the size of order books at both locations increased, profitability did not keep pace and carried the risk of serious losses, which if continued could have eventually lead to their closure. Rothschild was faced with the constant need for rigorous control of wages and overheads, which were systematic problems throughout British industry. Although action could be taken to moderate domestic competition the operation was left exposed to international conditions that could not be overridden and eventually this sealed the fate of the Royal Mint Refinery and factory at Tring.

This thesis also examines the role of gold in an economic system of exchange. Until the mid 1970s gold was either directly or indirectly a form of money. Under the nineteenth century gold standard, the inter-war standard, and later under the Bretton Woods agreement, gold was at the centre of the international financial system.

Throughout much of the period London housed the world's most important gold market and received flows of gold from across the world. United behind the Bank of England, members of the London gold market maintained a monopoly over Empire gold for over a century. As Lisle-Williams suggests 'kinship and friendship bound

the group, but the interests which prompted co-operation in the first place remained the foundation of the group's power'.⁷⁸³ As major gold markets developed and changed the dominance of London the group stood together to ensure that the importance of the City as a financial centre was not eclipsed. Whilst Rothschild severed its links to the physical handling of gold when it sold the Refinery, it continued to maintain control of the metal through its position as chair of the Gold Fixing.

In addition to factual knowledge about the business this thesis contributes to existing theories of the business strategies engaged by Rothschild to control markets. Research into the Royal Mint Refinery confirms the findings of Lopez-Morell and O'Kean, in their own research into Rothschild strategies, that Rothschild aimed to create oligopolies; for example mining, buying and selling raw material. They suggest that 'reason told [Rothschild] such commodities could only get scarcer and more valuable with use and technological advance.'⁷⁸⁴ Although the structure of the Rothschild business changed the business strategies engaged continued to be repeated. Lopez-Morell and O'Kean identified that to successfully employ their strategy it was necessary for Rothschild to take control of the administrative practices for the target sector. This thesis demonstrates that through its access to gold, via its connection to the Royal Mint Refinery, Rothschild gained unprecedented opportunities for financial invention and manipulation.⁷⁸⁵

⁷⁸³ Lisle-Williams, 'Merchant Banking Dynasties', pp. 359-60.

⁷⁸⁴ López-Morell & José M. O'Kean, 'Seeking out and building monopolies', p. 3.

⁷⁸⁵ See, chapter 4, p. 98.

However, this thesis also casts a shadow on the mythical reputation surrounding Rothschild of ‘ruling over the financial world’. Whilst Rothschild did gain considerable advantages through its myriad of family and business connections, it could only ever achieve control to a certain point. Rothschild was vulnerable for it was left to a higher authority to allow and ratify the position. An area where Rothschild succeeded in gaining and maintaining its control was as the chair of the Gold Fixing, which with support from the Bank of England it held from 1919 to 2004. However, there are occasions when Rothschild failed to secure the necessary control. As shown in this thesis Rothschild were unable secure a monopoly for treating Russian gold.⁷⁸⁶ Others have also highlighted their failure elsewhere. For example John Lang observed that Rothschild in 1892 failed to influence Krugers Government to take ‘proper measures of financial control.’⁷⁸⁷ Rothschild’s advice was rejected and the bank was ‘promptly told, in reasonably diplomatic terms, to mind its own business.’⁷⁸⁸

David Landes reminded us that in all business ‘luck played a role’.⁷⁸⁹ He suggested that ‘luck is not random’ but that ‘some people are better prepared than others to spot and seize happy chance.’⁷⁹⁰ He believed that Rothschild did better than its competitors because it charged less and worked faster.⁷⁹¹ Certainly this approach was found at the Refinery. But this had become a mantra of Rothschild passed down through generations of the family. In 1813 it was James who suggested ‘a wealthy

⁷⁸⁶ See, chapter 4, p. 100-9

⁷⁸⁷ John Lang, *Bullion Johannesburg: Men, Mines and Challenges of Conflict* (Johannesburg: Jonathan Ball Publishers, 1986), p. 58.

⁷⁸⁸ Ibid.

⁷⁸⁹ David S. Landes, *Dynasties: Fortunes and Misfortunes of the World’s Great Family Businesses* (New York: Viking, 2006), p. 42.

⁷⁹⁰ Ibid.

⁷⁹¹ Ibid., p. 46.

business house must share out its capital and not put all its eggs in one basket',⁷⁹² while in 1831 Salomon declared 'let us be satisfied with a little less, dear brothers, if we can thereby remain in the saddle.'⁷⁹³ This thesis provides an insight into the managerial organisation of N M Rothschild & Sons. The status of a family member involved in the bank was determined by seniority, rather than on a particular skill set. Each member gained knowledge and competence working at the bank. Some family members resisted being incorporated into the family firm, as we saw with Victor, although he did return to the bank much later. Rose and Jones made particular reference to Britain's system of proprietary capitalism with its 'vertical specialised and horizontally fragmented' system which they suggest worked 'brilliantly' and enabled Britain to secure certain advantages.⁷⁹⁴ Certainly the unbroken involvement of Rothschild family members at the bank played a critical role in maintaining stability. Roy Church, in research into family firms, suggests that continuity of 'ownership and successive generations stimulated rather than prevented innovation and growth.'⁷⁹⁵ The involvement of members of the Rothschild family over two centuries also helped secure a reputation for trust – essential to doing business in gold. Anthony's leadership of the bank, following his retirement after serving the bank for nearly four decades, passed to Edmund and the reputation continued. The reinvigoration of the merchant bank at the start of the 1960s and the expansion in the partnership base, which included for the first time a number of non-family members, did not affect their reputation. In 1965 a report in the *Sunday Times* declared that:

Rothschild is still probably the most important bullion dealer in the country. Though not all-powerful in the gold market as it was in the last century, it remains the official gold broker to the Bank of England, it has its own private

⁷⁹² RAL, 'James de Rothschild to his brother Nathan', 13 Jul 1816.

⁷⁹³ RAL, 'Salomon van Rothschild', 7 July 1831.

⁷⁹⁴ Geoffrey Jones and Mary B. Rose, 'Family Capitalism', *Business History* (1993), p. 8.

⁷⁹⁵ Roy Church, 'The Family Firm in Industrial Capitalism: International Perspectives on Hypothesis and History', *Business History*, 35 (1993), 17-43 (p. 28).

refinery, the Royal Mint Refinery, and the daily ritual of fixing the price of gold takes place in New Court... It is complementary to its gold business that Rothschild's has built up such a strong position in foreign exchange dealing.

Business at the Refinery and Tring had strayed a long way from the primary business of treating gold. As the focus of the merchant bank shifted there was no place for industrial ventures and both the Royal Mint Refinery and factory at Tring were disposed of.

This thesis also contributes to the wider understanding of the current renaissance for gold and the increased price.⁷⁹⁶ In the twenty-first century N M Rothschild & Sons actively seeks to promote its longstanding association with gold through its connection to the Royal Mint Refinery. Rothschild marked the bicentenary of the Bank of England by presenting a gold bar produced at the Rothschild Refinery to, which continues to be displayed in the Bank's museum.⁷⁹⁷ In 2000 a troy ounce of gold cost just \$280, but in the last decade this has more than quadrupled. Similar characteristics to the 'gold rush' of 1932 have been displayed and adverts offering 'cash for gold' has lead to a period of dishoarding. Gold demand keeps rising as fear factors emerge, and shows little sign of softening. N M Rothschild & Sons continues to actively promote its heritage and connection to gold gone are the days of the merchant bank; Rothschild today promotes itself as an investment bank or advisor. Rupert Howard, head of UK portfolio management with Rothschild Private Banking, regards gold's recent performance in nominal terms 'as something of a quirk.'⁷⁹⁸ He argues that 'gold has little industrial use apart from its jewellery making and

⁷⁹⁶ Several factors have combined to raise the price of gold. These include geopolitical risks in the Middle East, renewed concerns over Greece's budgetary situation, the perspective of American interest rates remaining flat indefinitely, and especially the return of inflation.

⁷⁹⁷ RAL, 000/639, 'Governor George, Bank of England to Evelyn de Rothschild' thanking him for gift of bicentenary gold bar, 1 Jul 1998.

⁷⁹⁸ *Financial Times*, 16 Oct 2010, p. 8.

dentistry, offers no yield and is exceedingly difficult to value.⁷⁹⁹ In spite of this N M Rothschild & Sons have not broken their link to gold and continue to view investment in the metal as an effective hedge against further turmoil in financial markets. Gold is a rebounding commodity and demand remains robust.

The decision to sell the Royal Mint Refinery in the 1960s was not taken lightly. Rothschild had witnessed great changes in the gold market and much thought went into the disposal of the Refinery. The time was right to sell; it was not merely that they had lost interest in gold. Rather all available information at the time pointed to closure; the decreasing volume of gold sent to London for treatment, increased operating costs, rising competition between international markets, together with the relatively stable price of an ounce of gold at \$35 for over four decades. Rothschild's initial commitment to operating the Refinery was part of their interest in gold an interest it maintained through its chair of the London Gold Fixing.

⁷⁹⁹ Ibid.

Appendices

Appendix 1.

ROTHSCHILD: PARTNERS in the LONDON HOUSE(1836-1963)

<u>Date</u>	<u>Add/delete</u>	<u>Partners</u>
1836	+Lionel +Anthony +Nathaniel * -Nathan	Lionel, Anthony, <i>Nathaniel</i>
?1839	+Mayer	Lionel, Anthony, <i>Nathaniel</i> ,
1870	- <i>Nathaniel</i>	Lionel, Anthony, Mayer
1874	-Mayer +Natty +Alfred +Leo	Lionel, Anthony, Natty
1876	-Anthony	Lionel, Natty, Alfred, Leo
1879	-Lionel	Natty, Alfred, Leo
1915	-Natty	Alfred, Leo, Charles, Lionel
?	+Charles +Lionel	
1917	-Leo +Anthony	Alfred, Charles, Lionel
1918	-Alfred	Charles, Lionel, Anthony
1923	-Charles	Lionel, Anthony
1942	-Lionel	Anthony
1947	+Edmund	Anthony, Edmund
1956	+Leopold	Anthony, Edmund, Leopold
1959	+Evelyn	Anthony, Edmund, Leopold
1961	-Anthony	Edmund, Leopold, Evelyn
1963	+Jacob	Edmund, Leopold, Evelyn

* Nathaniel was English born, but worked mainly from the Paris House

Extract from RFamFD/3

The lamented death of Baron Lionel Nathan de Rothschild on the 3rd day of June instant having rendered it necessary that the position of his three sons Sir Nathaniel Mayer de Rothschild, Alfred Charles de Rothschild and Leopold de Rothschild in reference to the Association should be defined pending the preparation of a definite contract. It is agreed between the undersigned as follows namely that as from the 3rd day of June instant the above named Sir Nathaniel Mayer de Rothschild, Alfred Charles de Rothschild and Leopold de Rothschild shall be and are hereby admitted into the Association in respect of the share therein which on the day of the death of Baron Lionel Nathan de Rothschild was attributable to him and his sons and that the above named Sir Nathaniel Mayer de Rothschild, Alfred Charles de Rothschild and Leopold de Rothschild shall have the same rights and powers in respect of the London House as were enjoyed and exercised by the late Baron Lionel Nathan de Rothschild and that a definite contract shall be entered into with all proper dispatch but in no case later than the 31st day of December 1879. Dated this 10th day of June 1879

[Signed by Alphonse, Gustave, Edmond, James, Anthony, Mayer Carl, Willy Carl, Salbert]⁸⁰⁰

⁸⁰⁰ Source: The Rothschild Archive.

Appendix 2.

**MANAGERS: ROYAL MINT REFINERY
(1852 – 1967)**

- 1). POISAT : Installation of plant, from 1852-54
- 2). BERTRAND: from 1854 to ?
- 3). ARNOULD (brother-in-law of BERTRAND): dates unknown
- 4). JAQUES ARNOULD (son of the above): ? to 1901
- 5). DUDOIT : from 1901 to 1912
- 6). G BUESS: from 1912 to 1937
- 7). S SMITH: from 1937 to 1938
- 8). W H WILLIAMS: from 1938 to 1952
- 9). K W BELCHER: from 1952 to 1967

Appendix 3.

Gold Weights

Bar Specifications

- Established in 1934 the Good Delivery List contains the names of refiners and a description of their bars that are acceptable to the vaults operating in the London bullion market. Prior to 1934 little is known about the specification that applied to gold good deliver bars. The requirements required for a Good Delivery bar were that it should be within one of the allowed fineness ranges, which at the time included 899-901, 915-917, and 995 and above, and it should bear the stamp of one of the 20 listed melters and assayers. In 1954 list specifications were updated and each bar required an unique serial number to be shown. In addition only fine bars of 995+ and a maximum fineness of 999.9 . From 1993 new guidelines relating to the quality of each bar were set down. A bar needed to be of ‘good appearance, free from surface cavities or other irregularities, layering and excessive shrinkage, and must be easy to handle and convenient to stack’.⁸⁰¹

Refined Gold bars

The form that almost all gold bullion is traded come in a wide range of shapes and sizes. The main bars are:

- a troy ounce or 31.1035 grammes
- a gram or 0.03215 troy ounces
- a tael bar or 37.5 grammes
- a standard bar of 400 troy ounces or 12.44 kilo grammes
- a kilo bar of 1,000 grammes or 32.15 troy ounces
- a tola bar of 111 grammes or 3.57 troy ounces

The standard 400 ounce bar is .995 fine, while smaller bars may be up to .999 fine. Small bars have a higher premium than the larger bars both because the smaller bars are finer and because the cost of fabrication or or processing is higher.⁸⁰²

Troy system

The troy system is used to weigh precious metals and gems and is named after Troyes, France where it originated. The following table illustrates the troy system:⁸⁰³

1 troy pound	=	12 ounces, 240 pennyweight, 5760 grains
1 troy weight	=	20 pennyweight, 480 grains
1 pennyweight	=	24 grains, 0.005 ounces
1 grain	=	0.042 pennyweight, 0.002285 ounces.

⁸⁰¹ Source: Green ‘The London Gold Good Delivery Gold List, 1750-2010’, pp.39-43.

⁸⁰² Source: Weston, *Gold Award Survey*, p.45.

⁸⁰³ Source: Kettle, *Gold*, p.4.

Appendix 4.

Estimated gold Production of the World, 1887 -1968

<u>YEAR</u>	<u>OUNCES</u> FINE (000's)
1887	5,124
1890	5,724
1900	12,343
1910	22,024
1920	16,078
1930	20,908
1938	37,412
1939	38,197
1940	40,242
1941	39,436
1942	34,937
1943	26,694
1944	23,959
1945	23,043
1946	23,504
1947	23,866
1948	24,633
1949	25,500
1950	26,529
1951	26,018
1952	26,400
1953	26,250
1954	27,700
1955	27,170
1956	28,200
1957	29,500
1958	30,300
1959	32,400
1960	33,900
1961	35,500
1962	37,100
1963	39,000
1964	40,400
1965	41,400
1966	41,500
1967	40,500
1968	40,600

Source: compiled using BEA, C52/11 & Samuel Montagu Annual Bullion Review's 1953-1968;
From 1937 a notional figure for Soviet gold production was included in order to arrive at an estimated world total.

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